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Evaluating Asset Management firms by using the Dividend Discount Model - Helsinki Stock Exchange

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Abstract

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Some view investing in stock markets as gambling. However, there have been examples of investors who were able to beat the market by using different investment strategies. In Finland, previous studies have shown the ability of value-investing to earn higher returns compared to the market or to growth-investing. The idea of value-investing is to find companies that trade below their true value, or intrinsic value.

This research-based thesis aims at finding companies that are undervalued by the market by using the Dividend Discount Model (DDM). The DDM states that the intrinsic value of a stock is the present value of all future dividends that an investor receives during the holding period and the price at which the investor can sell the stock at the end of the holding period. Focus is placed on the Asset Management industry because of the intensity of companies that have the highest dividend yield. The forecasting period is from 2016 to 2019.

The methodology consists of two stages, the first one being the selection of stocks and the second one being the valuation process. In the selection stage, fours stocks that have the highest dividend yield within the Asset Management industry are selected: Norvestia, Panostaja, CapMan and eQ. In the valuation process, the Finnish economy and the Asset Management industry are researched. Then the business condition of the companies is analysed by using different financial ratios. After that, the DDM is applied to calculate the intrinsic value of stocks. The inputs of the model are the forecast data provided by the Balance Value Control (BVC), a service that analyses the future prospect of almost all listed companies in Finland. The intrinsic value is calculated based on three assumptions about the holding periods. It is assumed that an investor buys a stock in May 2016 and sells it in (1) December 2017, (2) December 2018 and (3) December 2019. The calculations were carried out on 3 May 2016, and were then compared to the market price quoted on NASDAQ on the same day.

The outcome of the intrinsic value calculations suggests that the stocks of all the four companies were overvalued by the market in all holding period assumptions. It is recommended that the holding period is extended to March or April after the investor receives the dividend for the previous year. Doing so will increase the sum of the future cash flow due to the addition of the last dividend. The present value, or the intrinsic value, of stocks will increase accordingly.

Keywords
stock exchange, value investing, Dividend Discount Model, dividend yield, intrinsic value, market value, Asset Management.

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1 Introduction

1.1 Background and objective

Value-investing is the practice of investing in a company whose shares are trading at a lower price than their intrinsic value. Intrinsic value is the amount that an investor is willing to pay for the stock based on their opinion about the company's recent fundamentals and long-term prospects. The market value of stocks at any point is determined by demand and supply. Value investors buy stocks when there is low demand for them because the market has not recognized their true value, and sell them later when the demand and the price rise up. Value investors are against the efficient market hypothesis which states that market prices reflect the true value of companies. In fact, value investors exploit the time when market price diverges from intrinsic value due to inefficient information or irrational trading behavior. (Horan, Johnson & Robinson 2014, 3-7.)

In Finland, the most recent studies on value-investing strategies are conducted by professors at Lappeenranta University of Technology. Pätäri & Leivo (2009) published their research on the performance of different value strategies in the Finnish stock market during 1993-2008. By dividing the sample stocks into different portfolios and then evaluating them based on several performance metrics, they came to the conclusion that most of value portfolios significantly outperformed both the market and comparable growth portfolios. Leivo (2012, 15-16) also suggested that the opportunities to earn abnormal profits by investment strategies based on pricing anomalies may be better in Finland than in other main stock markets during bearish period. The author believes that their findings are a good background for this thesis.

Originally, the thesis did not purposely target the Asset Management industry. Yet, after using the dividend yield ratio to select potentially undervalued stocks, the author noticed the crowdedness of companies in the Asset Management industry and decided to narrow down to it. After the highest yield companies are identified starts the valuation process. Firstly, the author analyzes the external environment, i.e. the macro Finnish economy and the current and future prospect of the Asset Management industry. Then she uses financial ratios to understand the financial condition of the companies. Next, she searches for the forecasted data and applies the DDM to calculate the intrinsic value of each company. This is also a deviation from the beginning plan which chose the residual income model. Finally, she compares the intrinsic value with the current price of stocks to determine which companies are indeed undervalued by the market.

The thesis consists of four chapters. The Introduction presents an overview of the thesis. The Theoretical Framework is made up of relevant literature to support the research carried out in the Empirical Part. Finally, the author discusses the key results, gives recommendations, addresses limitations of the thesis and reflects on her learning process. This chapter proceeds with the research question, investigative questions, methodology, demarcation, data collection and key concepts. It also includes an introduction to Helsinki Stock Exchange and the Asset Management industry in the end.

1.2 Research question (RQ) and Investigative questions (IQs)

The ultimate objective of the thesis is to find out which companies are undervalued by the market, using the DDM. Therefore, the research question (RQ) is defined as: "**Which companies are undervalued by the market?"** To be able to answer this question, the following sub-questions need to be solved:

1. Which companies are potentially undervalued by the market?
2. How is the current and future condition of the Finnish economy and the industry?
3. How is the current and future condition of the companies?
4. What is the intrinsic value of those companies?
5. Which companies are truly undervalued by the market?

Following is the overlay matrix table which correlates the IQs with theories needed, sources of information and results.

Table 1. Research question and investigative questions

IQs	**Theoretical Framework**	**Method**	**Results**
IQ1	- Purpose of value stock screening - Ratios used to screen value stocks: worldwide and in Finland	Collect dividend yield data from Company's Fact Sheet (NASDAQ's website)	1.4.2
IQ2	- Top-down analysis - Macroeconomic analysis (GDP, business cycle, inflation, etc.) - Industry analysis (cyclical or non-cyclical, barriers of entry)	Quantitative data. Books, Data from Bank of Finland, Ministry of Finance, Findicator, Statistics Finland, the Research Institute of the Finnish Industry, etc.	3.1.1
IQ3	Liquidity, solvency, working capital, profitability, cash flow ratios.	Books, NASDAQ OMX Helsinki, companies' annual reports	3.1.2
IQ4	Dividend Discount Model (forecast EPS, P/E, Dividend, cost of equity capital)	Books, Balance Value Control report	3.1.3
IQ5	Margin of safety	Compare intrinsic value to market price	3.1.3

1.3 Research methodology

According to the Lexicon of Financial Times, there are three steps in a value-investing process:

- Filtering stocks using P/E or other metrics to reduce the number of stocks. Potentially undervalued stocks usually have the lowest P/E.
- Valuing the low P/E stocks to find which are truly undervalued. A low P/E may be simply an indication of a bad stock.
- Comparing the intrinsic value of each stock to the market price. Truly undervalued stocks are ones whose price is lower than the intrinsic value by more than the "margin of safety" (approximately 33 per cent of the intrinsic value).

The first step mentioned above is referred to by Horan & al. (2014, 74) as "screening" - "the process of narrowing down a database of a large number of potential stock investments to a narrower list of companies based on factors of interest". After that begins the stock valuation process with five steps:

- understand the industry and the company,
- forecast company performance,
- select the right valuation model,
- convert forecasts to valuation inputs, and
- apply and interpret the valuation model.

Research design

The research method is designed to integrate the theories mentioned above into the scope of the thesis. In general, it is consisted of two stages: company selection and valuation process (Figure 1)

The purpose of Stage 1 is to select potential companies through a screening process. Stocks are screened based on dividend yield metric instead of P/E metric. More information about different screening metrics is given in Chapter 2.1. Stage 2 is the valuation process. Firstly, the macro Finnish economy and the industry are researched. Then, the potential companies found as the result of Stage 1 are analysed more closely using different ratios that are either taken from NASDAQ website or taken/computed from their financial statements. After that, the author searches for reliable sources of forecast. The forecast data needed to apply the DDM are: (1) EPS, (2) P/E, (3) dividend and (4) the required rate of return for investor. Only after all those needed inputs are found can the author apply the DDM to calculate the intrinsic value of stocks. Therefore, the official decision for valuation model comes after the collecting forecast data step. After that, the author compares the intrinsic value to the market price quoted on NADAQ OMX Helsinki on the same day the calculation is carried out. This is the final outcome of the thesis.

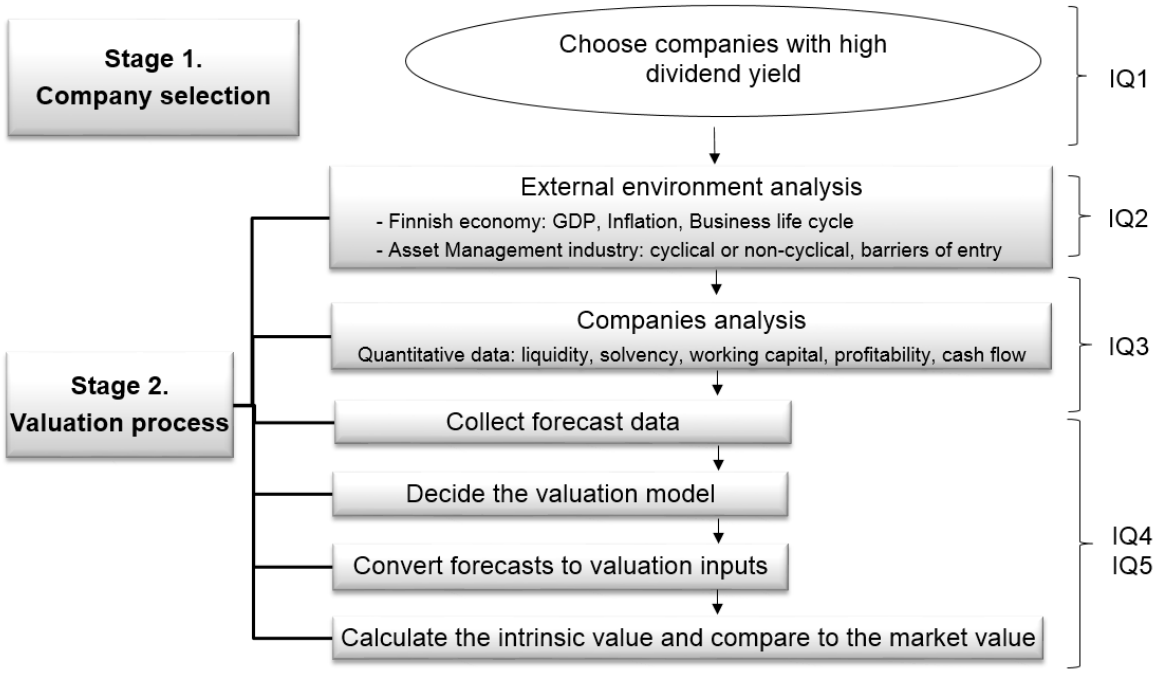

Figure 1. Research Methodology

1.4 Demarcation

1.4.1 Types of asset

Types of financial assets traded in Helsinki Stock Exchange include shares, bond, option and future, ETF/ETP and funds. Listed shares traded on the stock exchange are mostly common shares (or ordinary shares), yet some companies also issue preferred shares. The thesis only focuses on listed common shares.

Qualitative data such as the reputation of companies, the quality of management, is excluded from the scope of this thesis. The intangible asset is an item in the balance sheet, therefore involves in some ratios such as asset turnover in the Company Analysis part.

1.4.2 Sectors and Companies

There are two markets on the Helsinki Stock Exchange: First North and the Main Market. The thesis only concerns the latter because it is consisted of more established companies (this is one of the criteria followed by many value investors). Moreover, companies listed in First North can choose to prepare their financial statements according to Finnish accounting standard with which the author is not familiar. The Main market is formed by 127 listed companies divided into 10 sectors (Figure 2). This classification accords to the Global Industry Classification Standard (GICS) which covers approximately 95 per cent of the world's equity market capitalization (NASDAQ Baltic). The stock market has a significant number of companies from Industrials sector (44 companies making up 35 per

cent). Technology sector takes up 14 per cent and Financial 13 per cent. Being the biggest companies in their industry, Neste and Fortum are the only ones from Oil & Gas sector and Utilities sector listed on the Main Market.

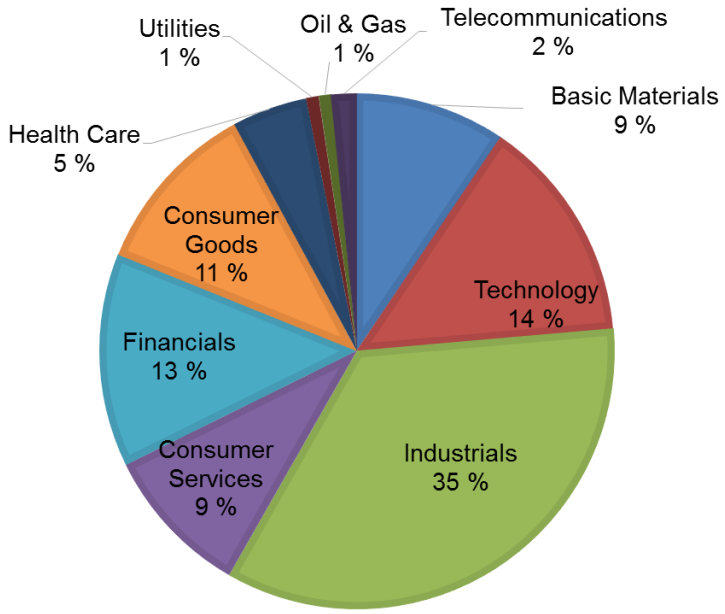

Figure 2.Ten sectors in Helsinki Stock Exchange (NASDAQ OMX, 10 April 2016)

Figure 3 presents the company demarcation. Within 127 listed companies, ten companies issue two classes of shares (either A-B or A-R) are: Aktia, Kesko, Metsa, Orila, Orion, Stockmann, Alandsbanken, Nokia, Asuntorahasto and SSAB. Therefore, the largest oval line represents 137 stocks in total. The green oval line represents 39 stocks that either do not pay dividend or do not have dividend data available, making them be excluded from the database. The database of the thesis is the blue oval line which represents 98 available dividend yield data.

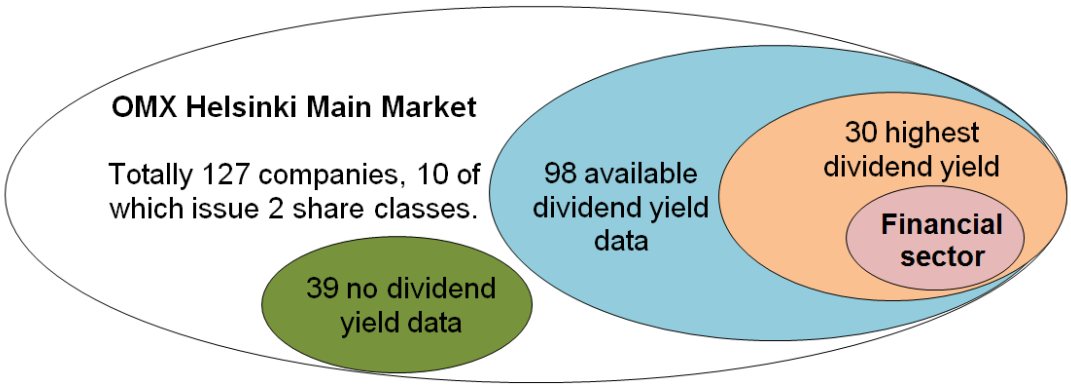

Figure 3. Company demarcation (data on 13 April 2016)

The 98 stocks that yield dividend were ranked based on their dividend yield. Theory relates to the choice of this metric is provided in Chapter 2.1. The average dividend yield is 4.12 per cent, the median is 3.9 per cent. Stocks that pay 4.83% or more are within the

70th percentile (30 per cent highest). Stocks that pay 6.5 per cent or more are within the 90th percentile (10 per cent highest). (Table 2)

Table 2. Dividend yield data description

	Average	Median	Percentile				
			10th	30th	60th	70th	90th
Dividend Yield	4,12 %	3,90 %	1,90 %	3,04 %	4,43 %	4,83 %	6,50 %

The left pie in Figure 4 presents stocks within 30th percentile. The domination of the Industrials sector and Financials sector is apparent (they each have nine companies, 32 per cent). Then, the author narrows down to the top 10 per cent highest dividend yield. The right pie in Figure 4 shows the significant crowdedness of companies from Financial sector (four companies making up 40 per cent) while there is only one company from Industrials sector.

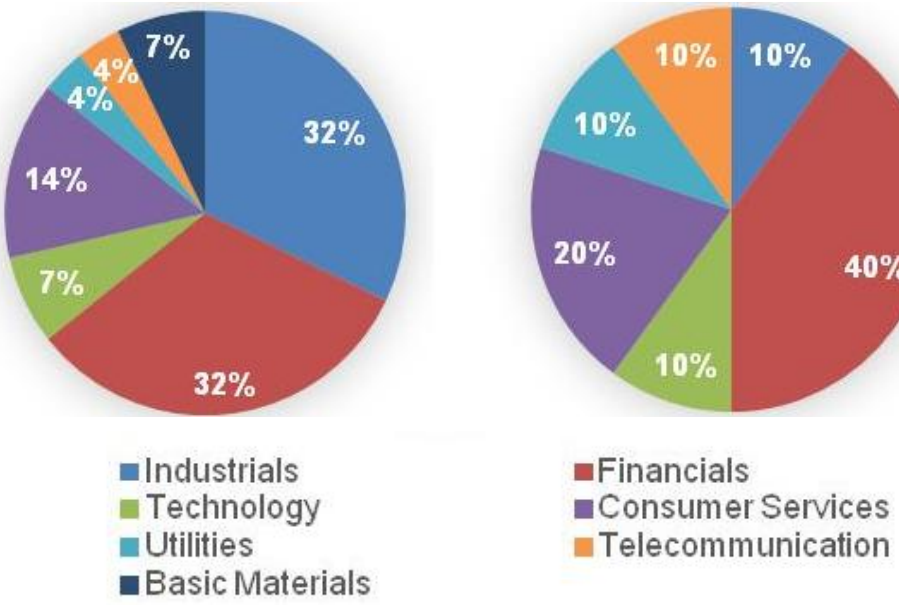

Figure 4. Highest Dividend Yield within 70th (left pie) and 90th percentile (right pie)

Noting the outstanding of companies from Financials sector in term of dividend yield, the thesis focuses on the Financials sector. The Financial sector in Helsinki Stock Exchange is made up of six industries of which the tabular description is presented in Appendix 2. The dividend yield of Orava Asuntorahasto is the highest and this is the only company from Residential industry. The dividend yield of Banking industry and Asset Management industry are both high. The thesis focuses on the Asset Management industry (Chapter 1.8).

1.4.3 Investment method

Technical and fundamental analyses are popular tools for equity investment (Figure 5).

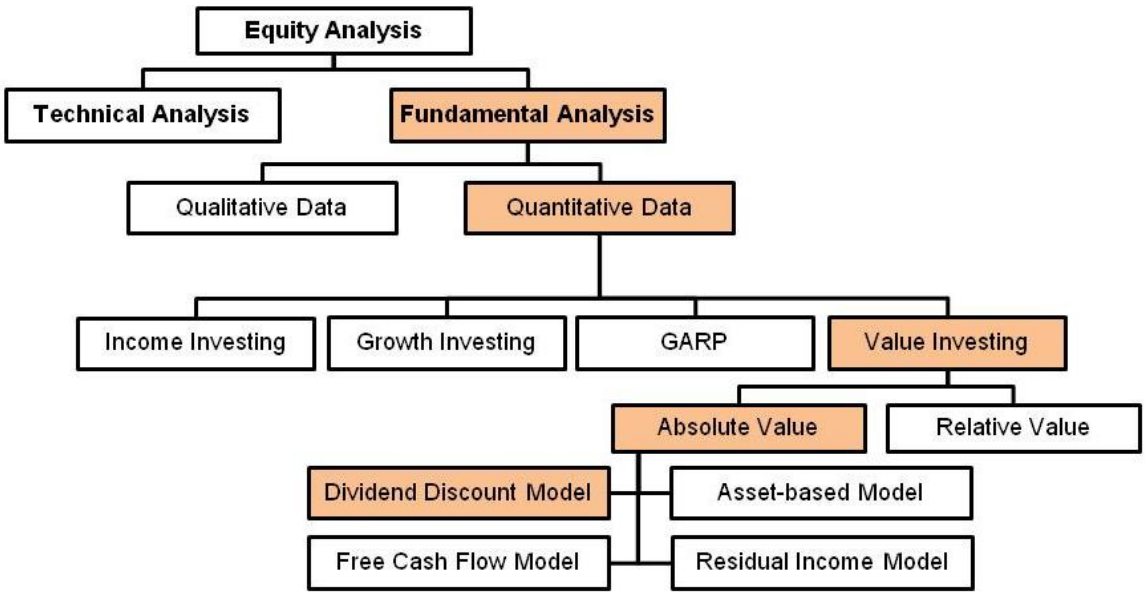

Figure 5. Methods of equity analysis in investment (Australian Investors Association)

Technical analysis uses charts and other tools to detect past data's patterns, i.e. price, volume to evaluate securities and predict future performance. This kind of strategy is also called passive or index-based strategy, a non-accounting strategy that ignores the company's specific information. Instead, investors look at factors like GNP, past and future country growth rate and the size of stock market. Because the passive investment strategy does not require analysis about financial statements of companies, it is useful when investors do not have adequate understanding of accountancy. (Roberts & al. 2008, 36.) Investopedia defines the **fundamental analysis** as a method to assess a security by measuring its intrinsic value. Fundamental investors try to understand every qualitative and quantitative factor that can affect the security's value, i.e. macroeconomic factors (the overall economy and industry conditions) and company-specific factors (financial condition and management). This is also called the active strategy. (Roberts & al. 2008, 36.) To calculate the intrinsic value of a company, investors use one of four methods: value investing, growth investing, growth at reasonable price GARP and income investing. Theoretically, all of these methods should bring about the same result.

Value investing method is divided into absolute valuation and relative valuation. Relative valuation selects stock by comparing price multiples (current price divided by some fundamental value, i.e. P/E, P/B) of one company to its peers, the industry or the market. Therefore, it is useful in screening large databases of stocks to identify potential value

opportunities. It is recommended to combine relative value with absolute value when ascertaining a company. To arrive at absolute value, investors can use four models: dividend discount model, free cash flow model, asset-based model or residual income model.

1.5 Data collection

NASDAQ OMX Helsinki, the trading platform for listed companies in Finland, is where data about listed companies and their share prices are found. Besides, NASDAQ and MorningStar cooperate in publishing Company Fact Sheet to provide more information about individual companies. The dividend yield data is collected from individual Company Fact Sheet on NASDAQ website provided by MorningStar on 13 April 2016.

Statistics Finland, Bank of Finland (suomenpankki.fi), Ministry of Finance (vm.fi), Findicator (findikaattori.fi) and The Research Institute of the Finnish Industry – ETLA (etla.fi) are sources that provide reliable and thorough data about Finnish economy in general, the current state and trends in different industries and sectors. The Financial Supervisory Authority (FIN-FSA, finanssivalvonta.fi) provides information about investment companies. The ratios presented in the Company Analysis are mostly taken from NASDAQ website and the Company Fact Sheet A minor part is calculated or taken from companies' annual report of 2013, 2014 and 2015.

The inputs used in the DDM includes: the cost of equity, the forecast EPS, P/E, dividend per share. The forecasting period is from May 2016 to December 2019. This data is taken from four Balance Value Control reports of four companies.

> Balance Value Control is the analysis report of Kauppalehti, prepared four times a year for about 130 listed companies. It describes how the profit of a company will be in the next few years. The analysis can help investors self-assess whether the market performance expectations are realistic and whether the company is an attractive long-term investment (Kappalehti.)

The intrinsic value is calculated on 3 May 2016, then compared with the market price quoted on NASDAQ on the same day.

1.6 Key concepts

Stock exchange is a market in which securities are purchased and sold (Bannock & Manser 2003, 253). **Share**, a type of security, "is an equally divided portion of the nominal capital of a company, entitling the owner to a part of its profits and residual value if the company goes bankrupt" (Bannock & Manser 2003, 242).

Value investing is a method to find stocks that are trading at a cheaper price compared to their intrinsic value. To be able to select such stocks, value investors typically choose ones with lower-than-average P/B or P/E ratios and/or high dividend yields. (Investopedia.)

To select the desired stocks from a large number of stocks, analyst can use **price multiples** - ratios of a company's share price relative to a value of its financial performance, i.e. P/E, P/S, P/B, P/CF or PEG (Morning Star).

After selecting the potential company, analyst selects the most suitable valuation models to calculate the intrinsic value of the share, one of them is the **Dividend Discount Model (DDM)** -a share's valuation based on expected future dividend payments that have been discounted to reflect the cost of carrying the stock." The cost of carrying the stock is the **required rate of return –** "the rate of return below which an investment is not worth making. This is normally calculated by looking at the cost of capital (the interest rate that would be earned by investing money elsewhere at a similar level of risk)." (Lexicon, Financial Times)

Margin of safety is "the difference between the intrinsic value of a stock and the price below which value investors will be willing to make an investment in the given stock. It is a means by which value investors protect their capital and their portfolios from downside risk." (Lexicon, Financial Times)

- **Intrinsic value** is what an investor is willing to pay for the share based on their assessment of the company's current fundamentals and long-term prospects. (Horan & al. 2014, 4.)
- **Market value** is the value that the market believes the asset is worth. Market value of listed shares fluctuate everyday depending on supply and demand. The demand is based on the market's expectation about the future of the company. The expectation is influenced by, i.e. an announcement from the company about its financial information, any other information about the company and the industry in which the company operates. (Weetman 2010, 313.)

1.7 Introduction to Helsinki Stock Exchange

Stock market evolution

Helsinki Stock Exchange (HEX) was established in 1912. Since then to 1980s, it was severely hit by many political events (World War I and II, Finland's civil war) and the worldwide depression in 1930s. After that, it developed substantially but was still considered underdeveloped. After 1970s, with many changes in market activities and legal

regulation, the market started attracting more foreign investment. (Nyberg & Vaihekoski 2011, 8-13.)

The integration of HEX into NASDAQ OMX Exchanges is as a series of mergers (Figure 6). In 1987, OM, a Swedish derivatives exchange, also Europe's first derivatives exchange (founded in 1985) became the world's first publicly listed exchange. In 1997, the cash and derivatives marketplace of the Helsinki Stock Exchange and SOM, Finland's Options Market merged to become Helsinki Exchanges. In 1998, Helsinki Exchanges and the Central Securities Depository (APK) merged to form the HEX Group. In 2003, OM merged with HEX to become OMX. In 2007, NASDAQ, the American technology stock exchange merged with OMX to become NASDAQ OMX. (Aran & Patel 2006) Since 2007, some events have been taken place: (2008) NASDAQ OMX acquired a part of Nord Pool which became NASDAQ OMX Commodities; (2010) NASDAQ OMX launches INET – a type of electronic trading platform across its seven Nordic and Baltic equity markets. (NASDAQ)

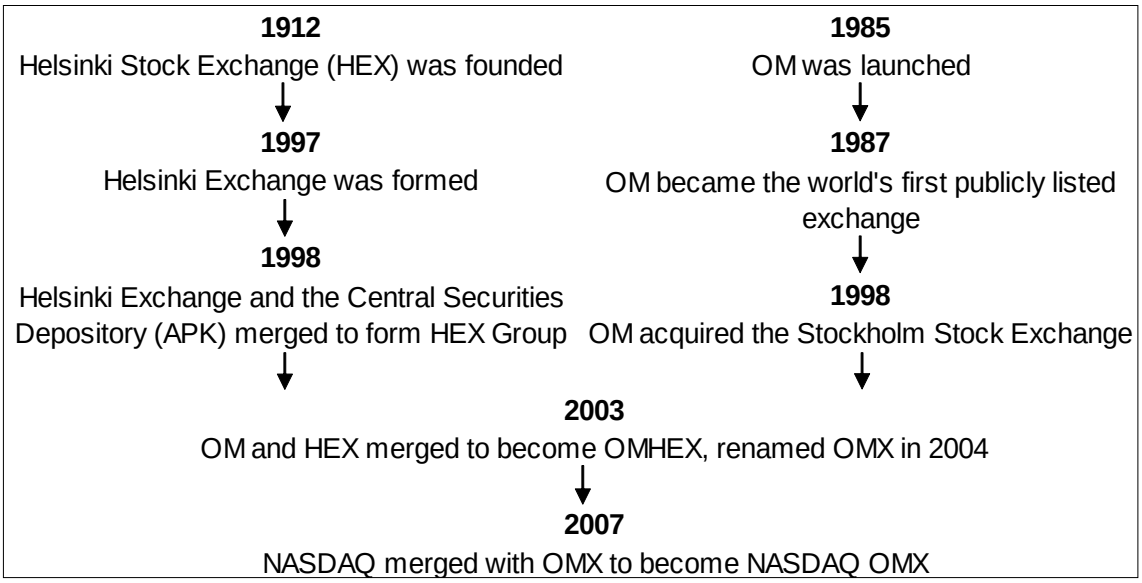

Figure 6. Helsinki Stock Exchange as a part of NASDAQ OMX

Nasdaq OMX Helsinki locates at Fabianinkatu 14, Helsinki. The benchmark index for OMX Helsinki is OMXH25 which is a market value index of 25 most traded companies.

Risk and Return on shares investment

Figure 7 presents returns on different investments in Finland from 1993 to 2014. The pattern of return on investment in Finland is similar as in other countries: return on investment fluctuates more in the stock market than in bonds or money market. The re-

turns on interest-bearing assets is more stable but significantly lowers than that on the stock markets in the long run. During a long period of time, stock market created higher returns than other assets but there were periods when it generated losses. (porssisaatio.fi)

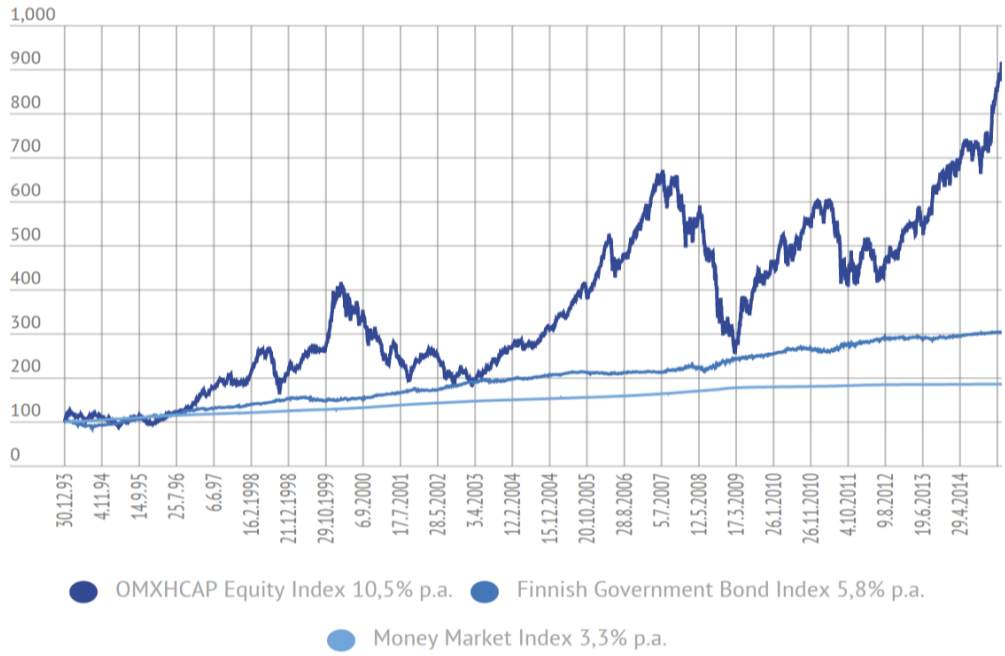

Figure 7. Returns on different investments in Finland from 1993 to 2014. Base year: 1993, scale: % (Angervuo, in Finnish Foundation for Share Promotion.)

Figure 8 presents seven types of risk relating to equity investment suggested on the website of the Australian Investors Association.

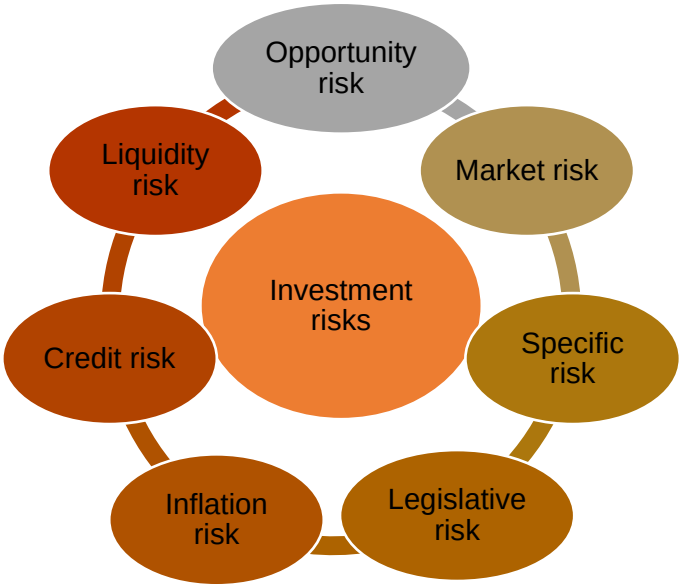

Figure 8. Risks involved in equity investment (Australian Investors Association)

Opportunity risk means the loss of return if the investor could have invested in another more profitable asset. Market risk, for example a significant market decline, is the thing that investors cannot manage but try to understand and avoid. Specific risk is associated with an individual stock. Stock price is very sensitive to any published information about company. A recent example is about Nokian Tires, the share price of the company dropped 9.6 per cent after local newspapers reported that it used specially created tires for media tests (autoevolution.com). Credit risk occurs when the company goes bankrupt; common stockholders are behind bond and preferred stock holders in claiming on the assets.

Generally, higher risk correlates with higher return. However, it is worth pointed out the importance of the purchase time and the holding period. If an investor invests in a portfolio of stocks when the market peaks, then holds it for a period of time, the portfolio may even bring negative returns. For example, the NASDAQ composite closed at 5,048.62 on March 10, 2000. Only more than 10 years later did the market reach this level again. (finra.org.)

Stock market cycle

The stock market as a whole trends upwards or downwards sequentially. The period when the market increases its value is called “bull market”, the opposite is called “bear market”. Bull market is a favorable time to invest in stocks; investors buy in when the market price is low and expect the price to increase. On the other hand, it is not advisable to put more money in bear market, however investors may hold bearish stocks if they have faith in the company. When a stock market is bullish or bearish, it does not mean that all sectors follow the trends. Certain sectors may prosper while others remain sluggish or decline. (NASDAQ)

Appendix 3 includes three charts showing the OMX Helsinki value index in 5-year, 1-year and 3-month periods, respectively. The Helsinki share index is also compared with international indexes: FTSEurofirst 300 Index, NASDAQ NMS Composite Index and S&P 500 Index. The comparisons show that the Helsinki share index generally followed similar trends as others. The market ended with bearish trend in 2011 (-25.82%), after then until the end of 2015 it experienced a bullish trend with the value rising every year. However, the second chart which shows the market performance in 2015 indicates that the market did not perform very well for most of the time. In the beginning of 2016, markets were declining.

Figure 9. OMX Helsinki All Share Index April 2015 – Jan 2016 (Financial Times)

Figure 9 (the third chart in the Appendix 3) implies an interesting phenomenon for value investor. The green ovals indicate the difference in market movement between OMX Helsinki and S&P 500 Index. The decline or rise patterns are steeper in Helsinki All Share Index than in the S&P 500 Index. This phenomenon is referred to by Leivo (2012, 16) as the "periphery syndrome". According to him, investors cash out first from the farthest market during bearish times. This, combined with the low liquidity in the Finnish market, results in steeper drop in the market compared to in other major stock markets. On the other hand, during bullish time, stock prices tend to rise in Finland more than they do in the major stock markets because international investors come back. Pätäri & Leivo (2009) divided the sample period into bear and bull market periods and found out that the outperformance of value strategies is mostly attributed to the fact that the value portfolios lose much less of their values during bear markets than do stocks on average.

1.8 Description of the Asset Management industry

MorningStar defines investment management firms as "firms offering diversified services such as asset administration, investment advice, portfolio or mutual fund management, money management, venture capital and investment research". Asset Management companies can be independent investment companies or a part of a bank; they usually do not invest on their own account but on behalf of their clients. This is one distinguished difference between asset management companies with other financial institutions such as commercial banks, investment banks or insurers (Elliott 2014, 2-3.)

In Finland, investment services are provided by many types of entities: banks authorised as credit institutions, investment firms authorised to provide investment services, and fund management companies authorised to provide portfolio management and investment advice. Investment services may also be provided, i.e. by service providers in the

EEA that have a branch office in Finland or have informed FIN-FSA about their intention to provide services in Finland. (finanssivalvonta.fi)

> According to Statistics Finland, "an investment service company is an institution that practises the stockbroking, market making, securities trading, emission organising and investment management activities in Finland specified in the Investment Service Company Act, and has an investment service license required by the Act. Investment service company activities are practised in Finland by domestic investment service companies and by branch offices of foreign investment service companies operating in Finland."

Appendix 4 and 5 are the income statement and the balance sheet of investment firms computed quarterly for 2014 and 2015, extracted from the Statistics Finland.

- As shown in the income statement, the primary sources of income are interest, dividend and fee and commission. The largest part of income comes from fee and commission. There is no COGS. Investment firms are affected by the volatility in exchange rate. In terms of expenses, labour costs are the most significant. In general, the first quarter of 2015 a significant drop in many important items such as interest income, fee and commission income, operating income, profit or loss for the year, except dividend income which doubled from the previous quarter. However, the recovery was strong till the year ended, making 2015 a better year in general compared to 2014.
- In the balance sheet, cash and cash balances at central banks is the largest item in the total asset, indicating the liquidity of investment firms. Total liabilities are kept at approximately half of total equity. Capital and retained earnings are the highest ones.

Figure 10 is the description of four listed companies within the Asset Management industry in Helsinki Stock Exchange. There are six companies in this industry, however since Sievi Capital had not provided its annual report and Taaleri' dividend yield is significant lower than others', these two companies are excluded. Therefore, there are four companies to analyze further: CapMan, eQ, Norvestia and Panostaja.

Name	BC Ranking	Dividend Yield	Adj.P/E	EPS	Period	Beta	Risk	MorningStar Industry
CapMan B	★★★★★	+7.4%	13.4	0.06	12.15	0.26	1.5.	Asset Management
eQ	★★★	+9.2%	19.2	0.28	12.15	0.68	3.5.	
Norvestia	★★★★	+10.2%	9.9	0.78	12.15	0.38	1.5.	
Panostaja	★★	+5.8%	-	0.17	1.16	0.49	2.5.	

Figure 10. Four companies in the Asset Management industry (data on 14 April 2016)

BC Ranking is a ranking system for Finnish listed companies developed by analysis company Balance Consulting for Kauppalehti. Norvestia has the highest dividend yield, followed by eQ and CapMan. Panostaja has the lowest dividend yield but second highest level of risk (beta). The riskiest stock is eQ.

The profitability of investment companies depends on the number and the performance of the assets under their management. Large companies gain advantages thanks to their expertise in a wide range of investment options. Small companies can also develop their competitiveness by focusing on a customized product or distinguished type of client. (hoovers.com.) Following is the activities carried out by the four companies. These data is taken from their 2015 annual report.

Table 3. Investments made by four companies

	Activities	Area
CapMan	- Invest in Nordic and Russian non-listed companies and Nordic real estate - Provide services such as fund advisory, fund management to Finnish and Swedish companies - Invest in private equity	Nordic countries Russia
Norvestia	Nordic shares, share funds, hedge funds, bonds, in the money market and in industrial investments.	Nordic countries
eQ	Invest in real estate, private equity, fixed income, equity	
Panostaja	Invest in Finnish SMES in different segment: digital printing services, takoma, ceiling, materials, fittings, spare parts for motor vehicles, building technology renovation, oral health care, heat treatment and other	Finland

2 Theoretical Framework

The theoretical Framework is divided into three sections. The first one is the use of different screening metrics to discriminate potentially undervalued stocks among others. The second section goes through theories related to the macro-economy analysis, Asset Management industry analysis and company analysis. The third section is the application of the DDM to calculate the intrinsic value of shares.

2.1 Stock screening

The actual screening process and outcome are already carried out in Chapter 1, Demarcation: Sectors and Companies. The theory presented here was researched prior to that screening process, and therefore, is to reason the use of dividend yield as the screening metric.

2.1.1 Screening metrics for value-investing

There are a number of prominent international examples of investors who have been able to utilize the value-investing strategies to create significant higher returns compared to the market. They are Ben Graham, Warren Buffett, Seth Klarman, Bill Ruane, John Neff, Wally Weitz, Charles Brandes, Bill Miller to name but a few. Appendix 6 is a short description about their investment criteria (Horan & al. (2014, 227-243)). Despite the fact that they all follow the value investing approach, they each have their own unique style.

- Firstly, they vary in their consideration of qualitative and quantitative measures. For example, Graham focuses almost entirely on quantitative factors while Buffett places great importance on qualitative elements such as the company's management and its pricing power.
- Secondly, they diverge in their opinion about company size. Graham, Buffett and Ruane prefer established companies with large market capitalization. Ruane especially emphasizes on companies that dominate their sectors. On the other hand, Brandes and Neff prefer small companies which are vulnerable to mispricing and sold significantly below their true value. Weitz considers companies of all sizes.
- Thirdly, they are attracted by some particular characteristics in the financial condition of a company, i.e. high liquidity, low debt, high ROE and good cash flow. Strong earnings, good dividend yield, low P/E and P/B ratios are also important. Graham and Weitz take into consideration the margin of safety; Klarman and Brandes prefer companies with large margin of safety - those sold at deep discount.
- As said before, besides quantitative factors, many investors consider qualitative factors as decisive elements. For Weitz, the control power of a company is more important than statistical measures.

Price multiples are usually applied as a tool in the screening stage to compare stocks and to select the most potential ones. Horan & al. (2014, 205-223) suggest seven valuation ratios that are proved to work well under the test of time. (Figure 11)

Price-to-Earnings (P/E) = Current market price per share / Net income per share
Price-to-Book (P/B) = Current market price per share / Book value per share
Price-to-Sales (P/S) = Current market price / Sales
Price-to-Cash Flow (P/CF) = Price per share / Cash Flow per share
PEG = P/E / Growth
Dividend yield (D/P) = Dividend per share / Current market price per share
EV/EBITDA = Enterprise Value (value of debt + value of equity) / Earnings before interest, tax, depreciation and amortization

Figure 11. Common ratios used in stock screening (Horan & al. (2014, 205-223))

In the **P/E** ratio, the net income can be either from the previous year or the next year since stock price is based on the expectation of the future earnings. The outcome of this ratio is the price that investor pay for one unit of net income. It can also be interpreted as the number of years it might take the company value to equal the market value, given its current level of earnings. Therefore, it measures of how quickly the market thinks the company will grow. (Becket 2012, 67-68.) Shares with higher P/E means high growth expectations of the market, so investors are willing to pay more. Value investors, on the other hand, seek for lower P/E because stock with a lower P/E costs less per share for the same level of earnings than one with a higher P/E. However, it may also be just an indication that other investors lack interest in the share. (Horan & al. 2014, 72-73.)

P/B also reflects how the market values a company, but based on its book value - the balance sheet value of net assets. The reliability of this ratio is somewhat limited because (1) many assets are recorded at their historical cost net of depreciation; (2) the book value does not include some tangible assets, i.e. brand names, intellectual property. Value investors generally prefer firms with lower P/B. (Horan & al. 2014, 74.)

P/S can be used even in cases when a company has negative earnings, cash flow or book value as long as it generates sales. However, the limitation of this ratio is that sometimes company has good sales but negative or zero earnings and cash flows. It is significantly detrimental in case a company inflates its sales. (Horan & al. 2014, 216-217.)

In the **P/CF** ratio, cash flow is the annual operating cash flow but it is possible to use free cash flow because free cash flow is available to shareholders, but it is worth noting that

operating cash flow is more stable than free cash flow. Value investors look for a lower P/CF ratio. (Horan & al. 2014, 218-219.)

PEG measures P/E relative to the growth prospect of a company. A lower PEG means a lower P/E relative to expected growth and suggests greater value of share. Ideal PEG is less or equal to one. To compute a PEG, the P/E ratio and the growth rate must be from the same period. (Horan & al. 2014, 213-214.)

Since dividend yield is the metric applied in the thesis, it is explained in more details than other metrics. **D/P** presents the yield that an investor receives from his or her investment. The dividend can be an estimated figure because investment is forward looking. Value investors look for high dividend yield. However, a high dividend yield is a trade-off because company may not invest in new projects. It is worth being cautionary about companies paying high dividend regardless of declining business or using debt to finance this payment. So it is recommended to ascertain the company's ability to generate earnings and cash flow to continue the dividend payment in the future. (Horan & al. 2014, 220-221.) Dividends are usually more stable than earnings or cash flow because most companies that pay dividend will maintain or gradually increase their dividend payments over time, otherwise it will be interpreted by the market as a warning sign that the firm is in financial trouble. Since dividends are stable, dividend yield is considered an indication of value because it highlights changes in price. Investors need to take into consideration different tax treatments regarding dividend income. Due to time and resource constraint, the thesis leaves the taxation topic untouched.

EV/EBITDA is useful when comparing companies with different capital structures. The EV is the combination of both debt and equity. EBITDA is the operating cash flow available to both debt holders and equity holders. (Horan & al. 2014, 222-223.)

2.1.2 Screening metrics for Finnish stock market

Albeit not many, there are a couple of studies about the performance of value-investing strategies in Finnish market. The author was able to name them in Appendix 7. Some of them were conducted when there were significantly less companies on the stock market. Recently, researches about value strategies in Finland mostly carried out by professors of Lappeenranta University of Technology (Table 4). They use data from slightly different timing but follow quite the same method. First they divide the stocks into different portfolio based on the rank of either individual ratios or the different combinations of them. Then they use several performance metrics (Sharpe ratio, the Sortino ratio, the Jensen

alpha and 2-factor alpha) to measure the performance of those portfolios. Their key finding is that in general, value portfolios outperform the market or the comparable growth portfolios.

Table 4. Recent researches on value-investing metrics in Finland

Author(s)	Name	Method	Key findings (extracted from the research's Conclusions part)
Leivo, Pätäri & Kilpiä 2009	Value Enhancement Using Composite Measures: The Finnish Evidence	Divide the sample of stocks during 1991-2006 into quintile portfolios based on 4 individual valuation ratios: E/P, EBITDA/EV, B/P and S/P and three combinations of them. Then measure the performance of those portfolios.	- "EBITDA/EV turned out to be the best of those selection criteria that are based on individual valuation multiples" - " the performance of value strategies based on individual valuation multiples could be somewhat enhanced by using the composite selection criteria." - Two best selection criteria are EBITDA/EV & B/P and EBITDA/EV & B/P & S/P.
Pätäri & Leivo 2009	Performance of the Value Strategies in the Finnish Stock Markets	Divide the sample of stocks during 1993-2008 into 3 portfolios based on 6 individual ratios (E/P, EBITDA/EV, CF/P, D/P, B/P and S/P) and 8 composite value measures (different combinations of individual ratios). Then measure the performance of those portfolios.	- "dividend yield is the most successful selection criterion of the six individual valuation ratios" - "The performance of value strategies based on individual valuation multiples could be somewhat enhanced by using the composite selection criteria (...) Particularly beneficial is to include D/P in composite value measures" - the performance of value portfolio can be somewhat enhanced by using combination of D/P & EBITDA/EV instead of only dividend yield.

In his doctoral thesis consisting of six research papers, Leivo (2012, 55) confirmed that in general dividend yield (D/P) is "the best individual valuation criterion for portfolio formation in the Finnish stock market". Contrary to the findings of many international studies, ratios such as P/B and P/S do not show their efficiency in the Finnish stock market. The explanation may lie on the differences in tax treatments of capital gains and dividend pay-out among different countries. (Leivo (2012, 49-50.)

2.2 External environment and companies analysis

Horan & al. (2014, 54-55) suggest two basic methods of analysis for investors to identify good investments. The top-down analysis starts with the economy and market as a whole, then narrows down to some specific promising sectors, and finally identifies good companies to invest in. The bottom-up analysis, on the other hand, identifies potential companies first and then moves on to investigate the sector and macro picture. (Figure 12) This chapter follows the top-down analysis, firstly explains factors of the Finnish economy in general and of the Asset Management industry in particular. After that, it explains the use of ratios relating to liquidity, solvency, profitability, working capital and cash flow in analyzing a company.

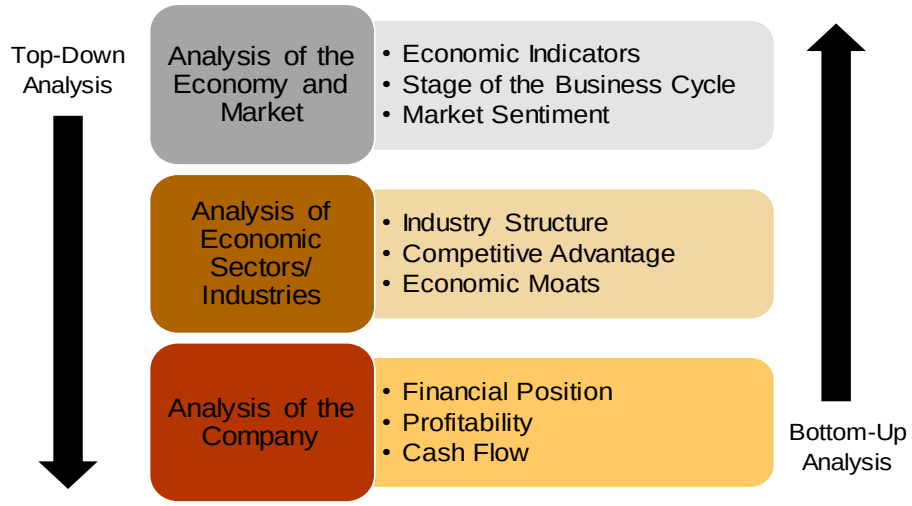

Figure 12.Top-down versus bottom-up analysis (Horan & al. 2014, 54)

2.2.1 External environment analysis

Kinkki (2001, 66) mentioned that “it seems that in Finland studies concerning stock prices and macroeconomic factors have failed to indicate dependence between these two subjects”. However, in determining the future financial health of a company, the macro-economic condition is an essential matter.

Economy analysis

a) GDP (Gross Domestic Product) - the total amount of final goods and services produced in a country in a year - is an important element when forecasting the future growth of a company. To estimate the company’s growth rate, analysts may start with the expected growth in GDP, and then make adjustment based on the prospect of the industry or the company. (Horan & al. 2014, 56-57.)

b) The nominal risk-free rate is an input in the estimation of the cost of equity. The nominal risk-free rate takes into consideration the **inflation**. Therefore, higher expected inflation increase the required risk-free rate of interest. (Horan & al. 2014, 59.)

c) Business cycle is periods of above-average or below-average economic performance along the GDP. The business cycle comprises of four periods: expansion, peak, contraction/recession and trough. The period when GDP rises is called expansion, the opposite is called contraction. An economy is said to be in a recession when real GDP drops for two consecutive quarters. Real GDP falls during a period of recession, then starts going up again. The point at which an expansion ends and a recession begins is called the peak; the point at which a recession ends and an expansion begins is called the trough. (Horan & al. 2014, 57-59.)

Asset Management industry

Due to the lack of information in English, the thesis does not aim at conducting a thorough analysis about the Asset Management industry. In the Empirical part, it will briefly discuss two issues:

d) When GDP is falling, it does not necessarily mean that all industries' performance falls accordingly. Some industries perform better in some stages of the economic cycle than in others. Kaplan (2013, 276-277), explains the difference between cyclical firms and non-cyclical firms:

- For a cyclical firm, earnings are significantly affected by the business cycle. Their product are often costly and non-necessities so that customers can delay the purchase until the economy recovers. Some examples of cyclical industries are basic materials and processing, consumer discretionary, energy, financial services, industrial and producer durables, and technology.
- In contrast, a **non-cyclical firm** is a firm that produces goods and services for which demand is not largely affected by the business cycle. Some examples of non-cyclical industries are health care, utilities, telecommunications and consumer staples.

e) Barriers of entry play an important role in determining the intensity of competition in the industry. Low barriers of entry are beneficial for existing companies, but do not leave out the competition. Barriers can be the capital required to establish a business, government policy.

2.2.2 Companies analysis

To understand the companies, the author will focus on these following four questions suggested by Horan & al (2014, 77.):

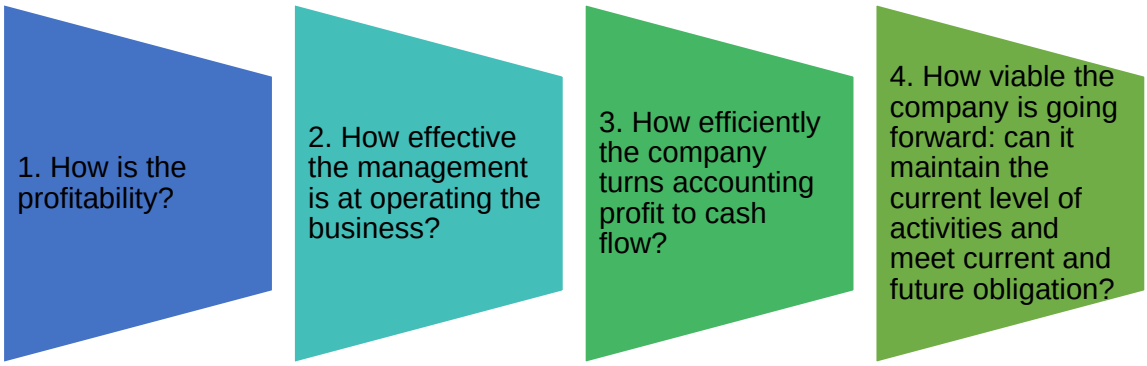

Figure 13. Key questions for Company Analysis

To be able to answer those questions, the author analyzes companies through five categories of ratios. This chapter provides the theories related to those ratios. The actual analysis is done in the Companies Analysis (Chapter 3.1.2).

Profitability ratios

ROE = net income / average equities
ROA = net profit / average total asset
ROI = (net income + interest expenses) /
(average equity + interest-bearing liabilities)
Operating margin = operating income / total revenue
Net profit margin = net income / total revenue
Asset turnover = total revenue / average assets

Figure 14. Profitability ratios

ROE measures the firm's ability to generate profits from capital invested by shareholders. ROA measures the return generated by the firm on the investment in total assets. Value investors, as same as other investors, prefer company that has high ROE and ROA. ROI is very important ratio for investment companies since investing is one of their main business. Besides, there are common size ratios which measure each item on a financial statement as a percentage of sales revenue such as operating margin and net profit margin. (Horan & al. 2014, 97-98.) Asset turnover ratio shows how efficient a com-

pany is at generating revenues for every 1€ invested in total assets. (Horan & al. 2014, 91-93)

Liquidity ratios include the current ratio and acid test which measure the short-term operating wellbeing of a company.

Current ratio = current assets / current liabilities
Quick ratio (Acid test) = (current assets – prepaid expenses) / current liabilities

Figure 15. Liquidity ratios

The current ratio tells if the company is able to pay back its short-term liabilities that come due the next year with its cash and convertible cash. The quick ratio eliminates the least liquid current assets such as inventories and prepaid expenses. One characteristic of financial sector in general and investment companies in particular is that they do not have inventories. The reason for eliminating prepaid expenses is that they will not be converted into cash at all, but represent costs already paid and therefore not requiring further cash outflow. Generally, it is considered good if those ratios are more than one. (Horan & al. 2014, 94.)

Solvency ratios consider the payment ability of a company during long-term period.

Financial leverage = total assets / common stock equity
Debt –to- capital = short and long-term debt / (debt + equity)
Interest coverage = EBIT / interest expense

Figure 16. Solvency ratios

Financial leverage measures the proportion of assets financed by external source rather than equity. Value investors usually prefer lower levels of financial leverage. A low debt-to-capital indicates the level of financial leverage employed by a firm. Interest coverage measures how well the company is able to pay its interest obligation in a year. Ideally, the ratio of more than one is expected because it indicates that the company not only generate enough to pay interest but leaves some for dividend or future investment. (Horan & al. 2014, 96-97)

Working capital (current asset - current liabilities) gives investors an idea of the company's underlying operational efficiency. Money that is tied up in inventory or money

that customers have not paid to the company cannot be used to pay off any of the company's obligations. (MorningStar)

Cash flow ratios provide insight into the quality of a firm's earnings, especially in case a company is aggressive in reporting earnings. For example, if the profitability ratios are good but the cash flow-based ratios show an inability to generate cash flows, this could indicate poor earnings quality. (Horan & al. 2014, 99-100.) Some useful cash flow-based ratios (in percentage) are:

CFO / total liabilities: represents the percentage of total liabilities that can be paid with one year's operating cash flow
CFO / revenue: presents the percentage of revenue reflected in operating cash flow
CFO / average total assets: presents how much operating cash flow generated for every €100 of revenue

Figure 17. Cash Flow ratios

2.3 The use of the Dividend Discount Model (DDM) in calculating intrinsic value

2.3.1 Reasoning the choice of DDM

Figure 18 lists suitable situations for each of the three different discounted cash flow valuation models: dividends, free cash flow, and residual income. The choice of the model should be based on the firm's characteristics and the available inputs.

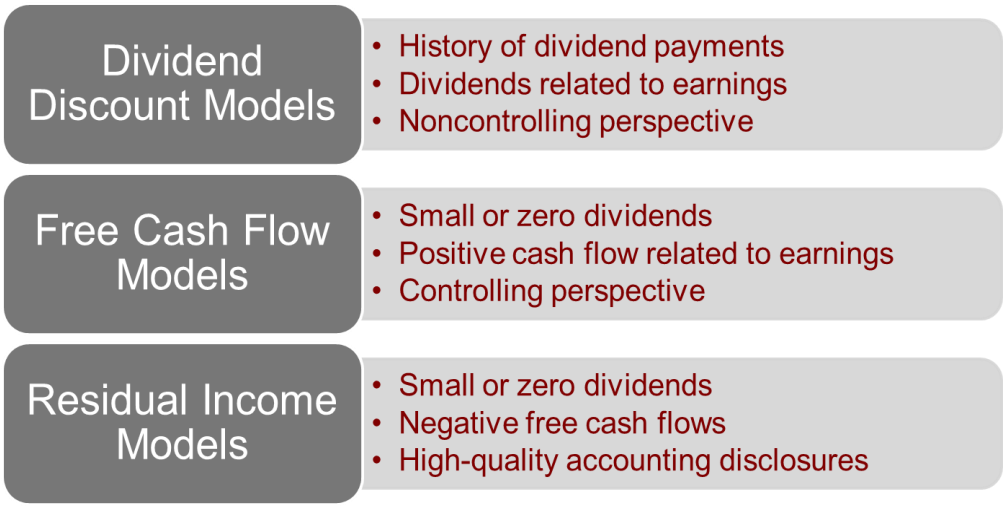

Figure 18. Choices of discounted cash flow models (CFA)

The author believes that the DDM is the most suitable model for the four companies due to the following reasons:

- All of the companies have been and are estimated to continue paying dividend.
- According to their dividend policy, the dividend is determined as percentage of EPS or net profit, i.e. CapMan states its policy is to pay at least 60 per cent of EPS as dividend.
- No non-controlling interest was reported for 2015.

The DDM applied in the thesis is based on two books: (1) Equity Asset Valuation (Stove & al. (2007)), published by the CFA Institute; and (2) Strategic value investing (Horan & al., 2014). The DDM states that the value of an investment is the present value of future dividend payment plus the price for which the investor can sell the share at the end of his or her holding period (Horan & al., 2014, 137)

2.3.2 Single holding period

In the case of an investor buying a share of stock and holding it for the period of one year, the intrinsic value of the share is the sum of the expected dividend paid during the holding period and the expected selling price at the end of the holding period, discounted to the present value.

$$V_0 = \frac{D_1}{(1+r)^1} + \frac{P_1}{(1+r)^1} = \frac{D_1 + P_1}{(1+r)^1}$$

where

V_0 = the value of a share of stock today, at $t = 0$
P_1 = the expected price per share at $t = 1$
D_1 = the expected dividend per share for Year 1, assumed to be paid at the end of the year at $t = 1$
r = the required rate of return on the stock

Figure 19. DDM for single holding period (Stove & al. 2007, 56-57)

In case the holding period is more than one, the following formula is used (Stove & al. 2007, 59).

$$V_0 = \frac{D_1}{(1+r)^1} + \cdots + \frac{D_n}{(1+r)^n} + \frac{P_n}{(1+r)^n}$$

2.3.3 The Gordon Constant Growth DDM

The Gordon growth model was developed by Gordon and Shapiro (1956) and Gordon (1962). It assumes that dividends grow for an indefinite period at an unchanged rate. In the equation bellow, the value of a share at time zero (V_0) equates the dividend of the next period (D_1) divided by the cost of equity (r) minus the dividend constant growth rate (g). D_0 is the current dividend. (Stove & al. 2007, 61)

$$V_0 = \frac{D_0(1+g)}{r-g} = \frac{D_1}{r-g}$$

This model assumes that:

- the cost of equity is greater than the growth rate, and
- the dividend growth rate is constant.

Replacing the V_0 by the current price of stock, analyst can calculate the growth rate implied by the market (Horan & al. 2014, 141-142.)

There are two methods of estimating the constant dividend growth rate.

Real GDP growth rate + expected inflation rate	g = dividend retention ratio x ROE ROE can be calculated based on DuPont formular ROE = required rate of return ROE = industry ROE

Figure 20. Estimation of dividend constant growth rate (CFA)

The growth rate (g) can be estimated either through the estimated GDP growth or by applying EPS or book value per share. The weakness of this model is that dividends do not always grow at a constant rate forever. Therefore, the estimation of the growth rate for many years into the future should be taken with caution. (Horan & al. 2014, 141.)

2.3.4 Two-stage DDM

As said, assuming a forever constant growth rate seems unrealistic. The two-stage dividend growth model theorizes that there are two phases of dividend growth rate: (1) the high growth rate (abnormal growth rate) for the initial period and (2) the sustainable and usually lower growth rate (normal growth) after that. Therefore, the current stock value is as follow (Horan & al. 2014, 138-139):

Stock value = Present value of dividends during abnormal growth
+ Present value of dividends during normal growth

2.3.5 The estimation of the cost of equity capital

The formula for calculating the cost of equity capital is given by Horan & al (2014, 146) as:

$$r = r_{rf} + BETA * Risk\ Premium$$

r = cost of equity capital

r_{rf} = the risk-free rate

BETA = the riskiness of the firm's stock

Risk Premium = (return on the market or on a broad market index - the risk-free rate)

The current risk free rate is usually the interest rate of government bonds. Beta, different for different companies, is a risk measure and is calculated by comparing the return on a particular investment against the return on a broad market index. The beta of the market is 1.0. Companies with beta more than 1.0 are believed to be more volatile and vice versa. (Horan & al. 2012, 145-149; Bowen & Rajgopal 2003.)

3 Empirical part

The first part of this chapter is to make sense of the external environment in which the four companies operate and the companies themselves. The external environment includes the Finnish economy and the Asset Management industry. To understand the performance of the companies, the author looks at different ratios relating to liquidity, solvency, profitability, working capital and cash flow. After that, the author calculates the intrinsic value of those companies under the instruction provided in Chapter 2.3. The Empirical part ends with the comparison between the intrinsic value and the market price.

3.1 External environment and companies analysis

3.1.1 Finnish economy and Asset Management industry analysis

2015 ended as the fourth consecutive year that Finland's economy has either contracted or stagnated (after the financial crisis in 2008, GDP growth existed only from 2009 to 2011). According to Bank of Finland (BOF), GDP growth will reach 0.7 per cent in 2016 and 1.0 per cent in 2017, lagging far behind the euro area which is expected to achieve the cumulative growth of 5.1 per cent in 2016 and 2017. Slightly more optimistic, the Research Institute of the Finnish Economy (ETLA) forecasts that Finland's GDP will grow by 0.9 per cent in 2016 and accelerate to 1.2 and 1.4 per cent in 2017 and 2018, respectively. However, the forecast from Europa for 2016 and 2017 is only 0.5 per cent and 0.9 per cent. Figure 21 presents Finland's real GDP from 1999 to 2017.

Figure 21. Finland's real GDP 1999-2017 (Statistics Finland and BOF, 10 Dec 2015)

Economic growth will rely on private consumption and investment. Investment growth will be at around 4 per cent between 2016 and 2017; in subsequent years the growth will slow down slightly. The low level of lending rates for households and non-financial companies will be maintained to support consumption and investment. According to the harmonized index of consumer prices (HICP inflation), **inflation** in Finland will average -0.1 per cent in 2015, then will rise to 0.3 per cent in 2016 and 1.0 per cent in 2017. (BOF.) Europa forecast for inflation is 0.1 per cent in 2016 and 1.5 per cent in 2017.

Asset Management industry

Financial services are categorized as **cyclical** to the economy movement (MorningStar). MorningStar defines the cyclical sector as industries that are heavily impacted by economic shifts. When the economy is prosperous these industries tend to expand and when the economy is in a downturn these industries tend to shrink. Therefore, with the growth in the economy, it can be expected a growth in the Asset Management industry as well. In general, the stocks in these industries have betas of greater than 1. Comparing the investment activities (Figure 22) to Finland's real GDP (Figure 21), it is evident that the investment activities has similar pattern as the GDP pattern.

Figure 22. Investment activity (Statistics Finland and BOF)

In Finland, the investment activity was slightly recovered with rising investment expectation in 2015. It is forecast that investment will grow moderately in 2016 and 2017. This is because the gradual recovery of external demand and the projects already in progress support a rise in corporate investment. At the end of the fourth quarter of 2015, there

were 57 investment service companies operating in Finland, of which 44 generated a positive operating result. (Statistics Finland)

In Finland, companies provide investment services must acquire the **license** required by law to be able to conduct the business. This can be considered a barrier of entry for new firms.

3.1.2 Companies analysis

Profitability

In general, eQ has been able to keep all of its profitability ratios increasing every year. The result of CapMan is also very good. If compared to 2014, Norvestia's results were increasing in almost all ratios except net profit margin.

Table 5. Profitability ratios (1)

Companies	**ROE** (%)			**ROI** (%)			**ROA** (%)		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Norvestia	9,51	3,68	7,95	11.6	3.9	8.9	8,79	3,57	7,78
eQ	4,79	9,49	14,2	4.7	9.6	14.2	4,31	8,64	12,5
Panostaja	-15,76	17,32	20,66	3,7	14,4	12,4	-3,29	3,7	4,38
CapMan	1,97	6,08	9,26	3.5	7	8	1,2	3,53	4,59

ROE and ROA ratios were taken from NASDAQ's website on 25 April 2016.
ROI ratios were taken from companies' annual report.

Panostaja was able to create the highest ROE in 2014 and 2015. eQ and CapMan also experienced constant increase in ROE as well. In terms of ROI, Panostaja and eQ both have very good ratio compared to Norvestia and CapMan. The highest ROA in 2015 is of eQ and Norvestia.

Table 6.Profitability ratios (2)

Companies	**Operating margin**			**Net profit margin**			**Asset turnover**		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Norvestia	87,9%	70,4%	82,3%	72,8%	81,7%	77,9%	0,12	0,04	0,1
eQ	26 %	38,1 %	43,3 %	18,3%	29,9%	34,3%	0,24	0,29	0,36
Panostaja	-0,2 %	6,6 %	4,94 %	-2,58 %	3,48 %	5,29 %	1,28	1,06	0,9
CapMan	11,2 %	16,2 %	29,2 %	4,9 %	10 %	19,06 %	0,25	0,35	0,24

All ratios were taken from the Company Fact Sheet (NASDAQ) for each company.

Financial companies usually do not have COGS, therefore there is no calculation of gross margin. The operating margin and net profit margin of Norvestia, eQ and CapMan

is very good and increases compared to 2014 (except that net profit margin of Norvestia in 2015 is lower than in 2014). In contrast, Panostaja did not perform very well in terms of operating margin and net profit margin but it has the highest asset turnover in every year compared to the other three companies.

Liquidity

Table 7. Liquidity ratios

Companies	Current ratio			Quick ratio		
	2013	2014	2015	2013	2014	2015
Norvestia	94,00	364,63	76,37	51,51	364,63	76,37
eQ	4,18	2,63	2,23	3,48	1,88	1,62
Panostaja	1,13	1,34	1,28	0,70	1,01	1,05
CapMan	1,28	1,83	2,18	1,28	1,83	2,18

Ratios were taken from NASDAQ's website on 25 April 2016.

There is a significant difference in the liquidity position between Norvestia and the other three companies. Norvestia is the most liquid one because it is does not have any bank loan. However compared to 2014, the liquidity of Norvestia dropped almost five times, mainly because of the increase in short-term liabilities. eQ and Panostaja both have satisfactory current ratio but quick ratio in 2015 is less than 2. For CapMan, the current ratio equals to the quick ratio and has been increasing from 2013. (Table 7)

Solvency

Table 8. Solvency ratios

Companies	Asset-to-Equity			Debt-to-Capital			Coverage		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Norvestia Oyj	1,05	1,01	1,03	0,02	0,01	0,03	788,24	5702	
eQ Oyj	1,08	1,12	1,16	0,08	0,11	0,13	71,4	566	
Panostaja Oyj	4,94	4,45	4,94	0,67	0,67	0,63		3,8	4,4
CapMan Oyj	1,70	1,74	2,30	0,41	0,42	0,56	2,2	3,7	3,2

Financial Leverage ratios are taken from NASDAQ's website on 25 April 2016.
Debt-to-Capital and Coverage ratios are calculated from companies' 2015 financial statements.

The financial leverage is measured through two ratios: asset-to-equity and debt-to-capital. The asset-to-equity ratio is generally low for Norvestia and eQ, meaning that these two companies do not rely heavily on debt to fund their business. In contrast, Panostaja employs quite high debt in their finance structure. The interest coverage ratio is used to determine how easy it is for a company to pay interest on its debt. Again, because of their low debt level, Norvestia and eQ had the highest coverage ratio. Not as

high as Norvestia and eQ, yet, the interest coverage ratio of Panostaja and CapMan is also satisfactory. (Table 8)

Working capital

Table 9. Working capital

Companies	Working capital (MEUR)		
	2013	2014	2015
Norvestia	134	134	139
eQ	10	15	13
Panostaja	7	16	16
CapMan	5	16	15

Figures are extracted from NASDAQ fact sheets of four companies

There is, again, a distinction between Norvestia and the other three companies when considering the working capital. This is due to its low liabilities and non-debt financial structure.

Cash Flow ratios

When looking at the cash flow ratios, it is easy to divide the four companies into two distinct groups. Group one, Norvestia and eQ, keeps a large amount of cash while group two, Panjostaja and CapMan, is not aggressive about retaining cash.

Table 10. Cash Flow ratios

	CFO / total liabilities			CFO / revenue			CFO / average total asset		
Companies	2013	2014	2015	2013	2014	2015	2013	2014	2015
Norvestia	220	242	177	27	52	57	3	2	6
eQ	196	137	164	61	52	59	14	15	21
Panostaja	8	12	7	6	9	5	6	8	5
CapMan	-7	24	1	-10	30	2	-2	10	0

The first ratio of group one is unsurprisingly high because as the financial leverage ratio indicates that they have very low liabilities. The ratio of group two is significant lower, yet does not necessarily means that they do not have enough cash to pay for their liabilities. In the case of CapMan, the company is eager to invest their cash into investment (the information is found on the company's 2015 balance sheet) and this investment may be easily turned into cash when necessary.

CFO-to-revenue addresses the ability to generate operating cash flow from revenue. This ratio should sync with the net profit margin, if not it is an indication that the company is aggressive in record earnings but the earnings have not yet generate cash. Again, Norvestia and eQ were able to generate more cash flow from revenue (more than 50 per cent of their revenue present in operating cash flow) in 2015 and the number was increasing every year. Meanwhile, Panostaja and CapMan's ratio is low and not stable. One of the main reasons is that CapMan realized losses in its investment and also had to pay higher interest in 2015. The CFO-to-net profit can somehow tell about the earnings quality of companies. According to the net profit margin presented before, Norvestia was able to generate 77.9 per cent of net profit from revenue, double that of eQ. However, its actual cash flow generated from net profit in 2015 (0.73) is significant lower than that of eQ (1.71).

The ability to generate cash flow from asset is also better for Norvestia and eQ compared to Panostaja and CapMan.

3.1.3 Intrinsic value

Formula

Before moving on to calculate the intrinsic value of the four companies, this section explains which formula that will be used.

The intrinsic value of all the companies is calculated in the same manner. Using the forecast P/E and EPS (the Balance Value Control's forecasting period is 2016-2019) provided in the Balance Value Control reports of each company, the author is able to calculate the estimate share price accordingly. Then, three assumptions are made:

Table 11. Assumptions in the DDM

	Buy stock in	Sell stock in	Holding period
Assumption 1	May 2016	December 2017	1 year and 7 months
Assumption 2	May 2016	December 2018	2 years and 7 months
Assumption 3	May 2016	December 2019	3 years and 7 months

The discounted cash flow is the present value of the dividend to be received during the holding period and the amount that the investor can sell the stock at the end of the holding period. The dividends are usually announced and paid in March or April. Take Assumption 1 as an example: an investor buys stock in May 2016 and sells it in December

2017. The future cash flow will be the dividend received in March 2017 and the price at which the investor can sell the stock in December 2017.

The intrinsic value in each assumption is calculated using the formula below. The first holding period is only seven months instead of one year. Therefore, the time value of money for the first holding period is not $(1 + r)^1$ but $(1 + r)^{7/12}$. The time value of money for the second holding period is $(1 + r)^{1+7/12}$ and so on.

$$V_0 = \frac{D_1}{(1+r)^1} + \cdots + \frac{D_n}{(1+r)^n} + \frac{P_n}{(1+r)^n}$$

Required rate of return

Table 12 presents the required rate of return of the four companies. These figures are taken from the BVC report of each company. The risk-free rate and the market risk premium are the same for all companies. There is a significant difference about the beta provided in the BVC reports and the beta taken from Kauppalehti website (page 14). Because CapMan has the highest beta and also the additional risk, investors require a higher rate of return to compensate for this riskier stock. eQ is the least risky stock among the four.

Table 12. Required rate of return (data taken from BVC)

	Norvestia	Panostaja	CapMan	eQ
Risk-free rate (%)	3.50			
Beta	1.14	1.18	1.19	1.00
Market risk premium (%)	4.50			
Additional risk (%)	0.00	0.00	0.50	0.00
Required rate of return (%)	**8.62**	**8.83**	**9.34**	**8.02**

Norvestia (12-month fiscal year ends in December)

Table 13. Forecast data for Norvestia (green cells data are taken from BVC)

€	12/2016	12/2017	12/2018	12/2019
P/E (1)	12.3	12	11.7	11.4
EPS (2)	0.65	0.67	0.69	0.7
Price (1)*(2)	7.995	8.04	8.073	7.98
Dividend per share	0.52	0.54	0.55	0.56

The BVC report of Norvestia was published on 20 April 2016. The forecast says that the P/E will decrease from 2016 to 2019, meaning that the stock will become cheaper rela-

tive to its earnings. EPS and Dividend per share will increase constantly. Based on the forecast data above, intrinsic value is calculated in each assumption as following:

Assumption 1.

$$V_0 = \frac{0.52}{(1+0.0862)^{(7/12)}} + \frac{8.04}{(1+0.0862)^{1+7/12}} = \mathbf{7.55}$$

Assumption 2.

$$V_0 = \frac{0.52}{(1+0.0862)^{(7/12)}} + \frac{0.54}{(1+0.0862)^{1+7/12}} + \frac{8.073}{(1+0.0862)^{2+7/12}} = \mathbf{7.51}$$

Assumption 3.

$$V_0 = \frac{0.52}{(1+0.0862)^{(7/12)}} + \frac{0.54}{(1+0.0862)^{1+7/12}} + \frac{0.55}{(1+0.0862)^{2+7/12}} + \frac{7.98}{(1+0.0862)^{3+7/12}} = \mathbf{7.39}$$

The share price of Norvestia was €8.10 on 3 May 2016 (NASDAQ). Based on this calculation, Norvestia's share was overvalued by the market.

Panostaja (12-month fiscal year ends in October)

Table 14. Forecast data for Panostaja (green cells data are taken from BVC)

€	12/2016	12/2017	12/2018	12/2019
P/E (1)	29.5	21.5	16.8	13.8
EPS (2)	0.03	0.04	0.05	0.06
Price (1)*(2)	0.885	0.86	0.84	0.828
Dividend per share	0.01	0.02	0.03	0.03

The BVC report of Panostaja was published on 4 March 2016. The forecast says that the P/E will decrease from 2016 to 2019, meaning that the stock will become cheaper relative to its earnings. EPS and Dividend per share will increase constantly. Based on the forecast data above, intrinsic value is calculated in each assumption as following:

Assumption 1.

$$V_0 = \frac{0.01}{(1+0.0883)^{(7/12)}} + \frac{0.86}{(1+0.0883)^{1+7/12}} = \mathbf{0.76}$$

Assumption 2.

$$V_0 = \frac{0.01}{(1+0.0883)^{(7/12)}} + \frac{0.02}{(1+0.0883)^{1+7/12}} + \frac{0.84}{(1+0.0883)^{2+7/12}} = \mathbf{0.72}$$

Assumption 3.

$$V_0 = \frac{0.01}{(1+0.0883)^{(7/12)}} + \frac{0.02}{(1+0.0883)^{1+7/12}} + \frac{0.03}{(1+0.0883)^{2+7/12}} + \frac{0.828}{(1+0.0883)^{3+7/12}} = \mathbf{0.69}$$

The share price of Panostaja was €0.86 on 3 May 2016 (NASDAQ). Again, the market overvalued the share value of Panjostaja.

CapMan (12-month fiscal year ends in December)

Table 15. Forecast data for CapMan (green cells data are taken from BVC)

€	12/2016	12/2017	12/2018	12/2019
P/E (1)	23.2	18.9	16	13.8
EPS (2)	0.04	0.05	0.06	0.07
Price (1)*(2)	0.928	0.945	0.96	0.966
Dividend per share	0.04	0.05	0.06	0.06

The BVC report of CapMan was published on 5 February 2016. The forecast says that the P/E will decrease from 2016 to 2019, meaning that the stock will become cheaper relative to its earnings. EPS and Dividend per share will increase constantly. Based on the forecast data above, intrinsic value is calculated in each assumption as following:

Assumption 1.

$$V_0 = \frac{0.04}{(1+0.0934)^{(7/12)}} + \frac{0.945}{(1+0.0934)^{1+7/12}} = \mathbf{0.86}$$

Assumption 2.

$$V_0 = \frac{0.04}{(1+0.0934)^{(7/12)}} + \frac{0.05}{(1+0.0934)^{1+7/12}} + \frac{0.96}{(1+0.0934)^{2+7/12}} = \mathbf{0.86}$$

Assumption 3.

$$V_0 = \frac{0.04}{(1+0.0934)^{(7/12)}} + \frac{0.05}{(1+0.0934)^{1+7/12}} + \frac{0.06}{(1+0.0934)^{2+7/12}} + \frac{0.966}{(1+0.0934)^{3+7/12}} = \mathbf{0.85}$$

The share price of CapMan on 3 May 2016 was €0.96 (NASDAQ). Therefore, the market overvalued the stock.

eQ (12-month fiscal year ends in December)

Table 16. Forecast data for eQ (green cells data are taken from BVC)

€	**2016**	**2017**	**2018**	**2019**
P/E (1)	22.5	19.5	17.2	15.3
EPS (2)	0.27	0.31	0.36	0.4
Price (1)*(2)	6.075	6.045	6.192	6.12
Dividend per share	0.22	0.25	0.29	0.32

The BVC report of eQ was published on 16 February 2016. The forecast says that the P/E will decrease from 2016 to 2019, meaning that the stock will become cheaper relative to its earnings. EPS and Dividend per share will increase constantly. Based on the forecast data above, intrinsic value is calculated in each assumption as following:

Assumption 1.

$$V_0 = \frac{0.22}{(1+0.0802)^{(7/12)}} + \frac{6.045}{(1+0.0802)^{1+7/12}} = \mathbf{5.56}$$

Assumption 2.

$$V_0 = \frac{0.22}{(1+0.0802)^{(7/12)}} + \frac{0.25}{(1+0.0802)^{1+7/12}} + \frac{6.192}{(1+0.0802)^{2+7/12}} = \mathbf{5.52}$$

Assumption 3.

$$V_0 = \frac{0.22}{(1+0.0802)^{(7/12)}} + \frac{0.25}{(1+0.0802)^{1+7/12}} + \frac{0.29}{(1+0.0802)^{2+7/12}} + \frac{6.12}{(1+0.0802)^{3+7/12}} = \mathbf{5.25}$$

The share price of eQ on 3 May 2016 was €5.70. Therefore, the market overvalued the stock.

4 Discussion

In this chapter, the author discusses the key results, gives recommendation, addresses limitation of the thesis and reflects on her learning process.

4.1 Key results

The key results are presented as the answer for the Investigative questions:

Table 17. Key results of the thesis

IQs	Findings
Which companies are potentially undervalued by the market?	Four companies in Asset Management industry: Norvestia, CapMan, eQ and Panostaja. Their business is mainly in Finland, other Nordic countries and Russia.
How is the current and future condition of the industry and economy?	Finnish economy had been stagnated in the last four years and is forecasted to grow in the next few years (forecasts from different sources can be found on page 27). However, the real GDP growth is significant lower than the average of the euro area. Inflation in Finland will rise from 0.2 per cent in 2015 to 0.3 per cent in 2016 and 1 per cent in 2017. Financial services are cyclical to the economy movement. Data from 2000 to 2015 shows that the movement of investment activities sync with the movement of GDP in Finland. Investment is expected to be one of the main forces of the GDP growth. In 2016 and 2017, investment growth will be at around 4 per cent and subsequent years the growth will slow down slightly.
How is the current and future condition of the companies?	Norvestia is the most liquid company. Norvestia and eQ employ a lower level of debt to fund the business, while the leverage ratio of Panostaja indicates that the company relies quite heavily on debt. However, Panostaja was able to generate the highest ROE. The ROE and ROI of eQ are generally good, those of CapMan were lower than other's in the last two years. This may indicate a lower ability of CapMan to employ its shareholder's equity to generate returns. In terms of cash flow, Norvestia and eQ keep a large amount of cash while Panjostaja and CapMan are not aggressive about retaining cash. More attention should be made to analyse Norvestia's earnings recording, its net profit shows a very high level of net profit from revenue but its actual cash flow generated from revenue is significant lower. According to BVC's forecast, the P/E of stocks from all the four companies will decrease during 2016-2019. Meanwhile, EPS and dividend per share will increase.

What is the intrinsic value of those companies?	The intrinsic value of the four companies is calculated on 3 May 2016, using the DDM. Inputs used are forecasted P/E, EPS, dividend and required rate of return provided by BVC. Forecasting period is from 2016 to 2019. Based on three assumptions of different holding periods (page 33), the author finds out that stocks of all the four companies were overvalued by the market for all the holding period assumptions.
Which companies are truly undervalued by the market?	Because no company is found undervalued by the market, this question cannot be answered.

4.2 Validity and limitation

There are two issues related to the validity of the thesis. Firstly, the Company analysis is done using data provided by the company itself and on NASDAQ's website. Therefore, it lacks the inside point of view. Secondly, the inputs of the DDM rely heavily on the forecast. The most reliable one that the author was able to find is from the Balance Value Control report of Kauppalehti.

One limitation that the author encountered is that she could not make much use of information in Finnish language. For example, (1) studies about the application of value investing in Finland may be available in Finnish, (2) the Asset Management analysis could have been conducted more thoroughly and informative if searched in Finnish. However, the author did try to translate some needed data in the Balance Value Control reports.

Another limitation is that the intrinsic value is calculated based on assumption of the holding period. This is because the author relies on the forecast provided in the Balance Value Control. However, assuming that the investor sells stocks in December results in the lower intrinsic value. If the investor holds the stocks until March or April to receive the dividend paid for the previous year, the sum of the future cash flow will increase due to the addition of that last dividend. The Gordon Growth Rate Model could have been applied if the author found data about the dividend growth of company. Again, this information may be available in Finnish.

4.3 Recommendations

Due to the limitation discussed above, it is recommended that the holding period is extended until March or April after the investor receives the last dividend before selling out the stock. Also, it is worth taking into account the measurement of beta from different sources. In this thesis, the author only applies the beta data from BVC report. However, the author notices a significant difference between the beta in the BVC compared to, i.e. the beta listed on Kauppalehti and Reuters. Since beta is an input into the calculation of the required rate of return, it also has an effect on the intrinsic value. The thesis selects stocks based on dividend yield. This is because the findings of previous studies about Finnish Stock market indicate the ability of dividend yield in finding undervalued stocks. However, there is no guarantee that its ability continues in the future. It is recommended that further research applies different metrics to select stocks. The thesis focuses on the Asset Management industry; however, this industry is just a small part of the stock market. There may be chances to find undervalued stocks in other industries as well. The Industry analysis is important and should be done more thorough. Last but not least, qualitative data should also be paid attention to.

4.4 Reflection on Learning

The thesis topic was indeed a challenge to the author due to her lack of knowledge about equity valuation and stock exchange in the beginning. Apart from common concepts such as GDP, inflation, financial ratios, many new concepts were needed such as stock valuation, screening metrics, macro and industry analysis, company analysis, intrinsic value and Dividend Discount Model. After three months writing the thesis, the author became more confident with those new knowledge and will be ready to apply it in the future.

The thesis as it is now has some deviations from the beginning plan. For example, in the beginning, the author did not plan to narrow to the Asset Management industry. Also, she thought about applying the Residual Income Model instead of the Dividend Discount Model to calculate the intrinsic value of share. Those changes are made thanks to the guiding of the thesis advisor and the author’s own reasoning.

At some points, the author was overloaded with a large amount of information to read and tasks need to do. However, with the motivation and the interest in the topic, the author managed to finish it. In general, the author is satisfied with the learning process as well as the outcome.

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Appendices

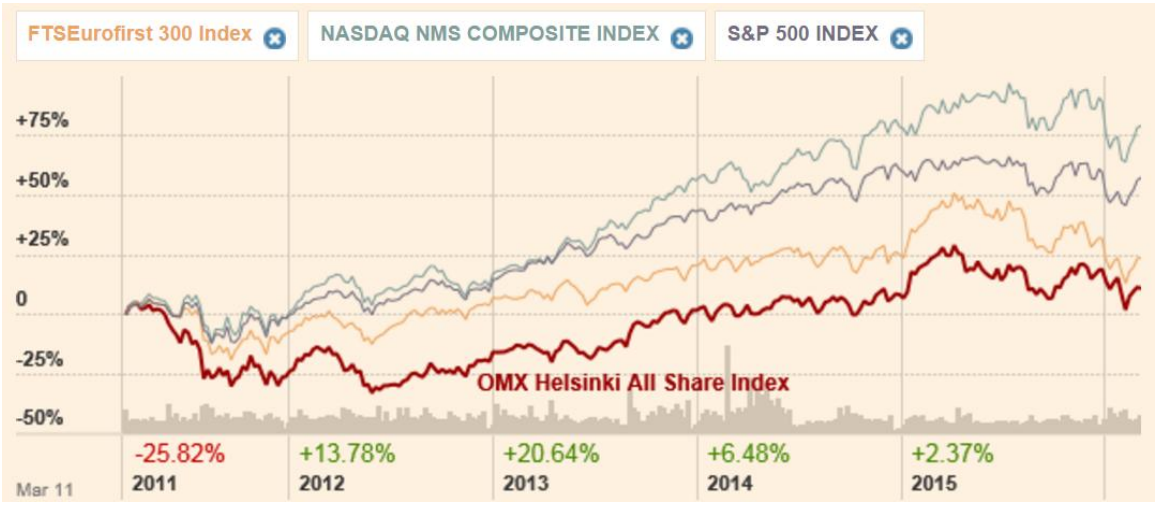
Appendix 1. Abbreviation

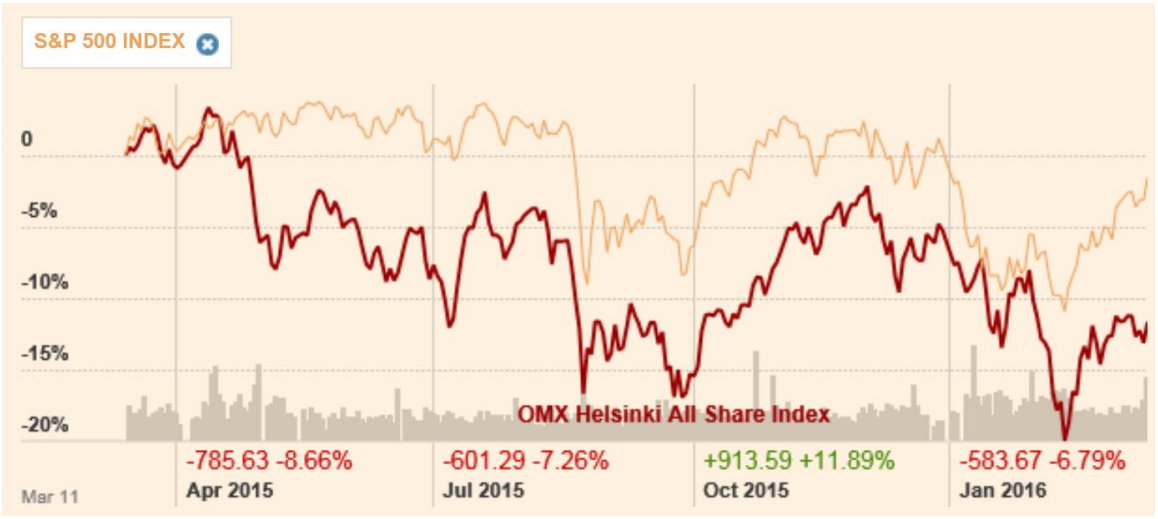
P/B:	Price / Book
P/S:	Price / Sale
P/E:	Price / Earnings
PE/G:	Price / Earnings / Growth
P/CF:	Price / Cash Flow
D/P:	Dividend Yield
EBITDA:	Earnings before interest, tax, depreciation and amortization
DDM:	dividend discount model
ROE:	return on equity
ROI:	return on investment
ROA:	return on asset
COGS:	cost of goods sold
CFO:	cash flow from operating activities
GDP:	Gross Domestic Product
BOF:	Bank of Finland
ETLA:	Research Institute of the Finnish Economy

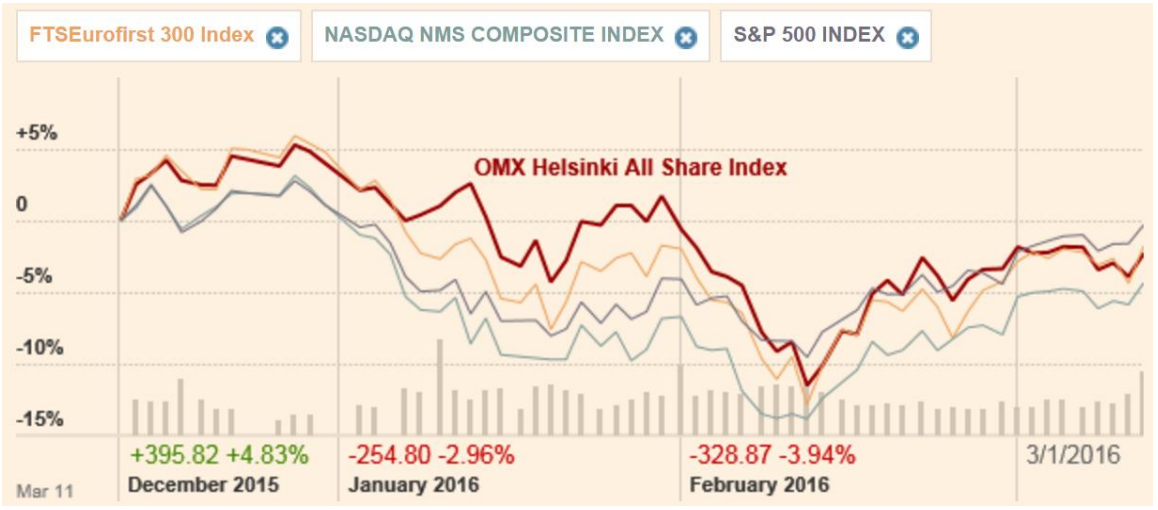
Appendix 2. Financial sector description (Kauppalehti, 14 April 2016)

	Name	BC Ranking	Dividend Yield	Adj.P/E	EPS	Period	Beta	Risk	MorningStar Industry
1	Aktia Pankki A	★★★★★	+6.9%	11.7	0.78	12.15	0.50	1.5.	Banks - Regional - Europe
2	Aktia Pankki R	★★★★★	+5.6%	14.5	0.78	12.15	0.33	3.5.	
3	Evli Pankki	-	-	-	-	-	-	-	
4	Nordea Bank	★★★★★	+7.5%	9.3	0.91	12.15	1.08	3.5.	
5	Ålandsbanken A	★★★★★	+3.9%	9.7	1.63	12.15	0.05	4.5.	
6	Ålandsbanken B	★★★★★	+4.0%	9.5	1.63	12.15	0.43	1.5.	
7	Asiakastieto Group	-	-	-	-	-	-	-	Business Services
8	CapMan B	★★½	+7.4%	13.4	0.06	12.15	0.26	1.5.	Asset Management
9	eQ	★★★	+9.2%	19.2	0.28	12.15	0.68	3.5.	
10	Norvestia	★★★★	+10.2%	9.9	0.78	12.15	0.38	1.5.	
11	Panostaja	★★	+5.8%	-	0.17	1.16	0.49	2.5.	
12	Sievi Capital	-	-	-	-	-	-	-	
13	Taaleri (LP)	★★½	+2.2%	17.0	1.56	12.15	0.20	2.5.	
14	Technopolis	★★★½	+4.5%	9.6	0.38	12.15	0.54	2.5.	Real Estate Services
15	Citycon	★★★	+1.7%	18.2	0.17	12.15	0.68	1.5.	
16	Investors House (LP)	★★★½	+2.9%	5.3	1.89	12.15	0.04	3.5.	
17	Sponda	★★★★½	+5.1%	10.8	0.79	12.15	0.77	2.5.	
18	Sampo A	★★★★★	+5.1%	14.3	2.96	12.15	0.94	2.5.	Insurance - Property & Casualty
19	Orava Asuntorahasto (LP)	★★½	+12.0%	10.4	0.95	12.15	0.29	1.5.	REIT - Residential
20	Orava Asuntorahasto uudet	★★½	+14.1%	8.9	0.95	12.15	0.37	1.5.	

Appendix 3. OMX Helsinki All Share Index (Financial Times)







Appendix 4. Profit and loss accounts of investment firms by Variables, Year and Quartal (Statistics Finland)

	2014				2015			
	1st quarter	2nd quarter	3rd quarter	4th quarter	1st quarter	2nd quarter	3rd quarter	4th quarter
Interest income	281	564	786	1,165	367	622	1,074	1,445
Interest expenses	116	227	340	452	126	286	454	549
NET INCOME FROM FINANCIAL OPERATIONS	164	338	446	712	240	336	620	896
(Expenses on share capital repayable on demand)	5	9	11	1	0	0	7	0
Dividend income	1,782	1,892	1,902	2,117	4,032	4,203	10,975	11,005
Fee and comission income	82,235	167,066	248,676	376,630	102,746	212,088	318,835	428,939
(Fee and comission expenses)	19,482	40,129	61,209	86,393	25,098	50,976	74,925	101,607
Gains or (-) losses on derecognition of financial assets and liabilities not measured at fair value through profit or loss, net	67	1,722	91	142	65	70	-30	126
Gains or (-) losses on financial assets and liabilities held for trading, net	322	469	630	884	1,143	4,172	4,950	3,372
Gains or (-) losses on financial assets and liabilities designated at fair value through profit or loss, net	-10	30	3	25	86	34	47	-121
Gains or (-) losses from hedge accounting, net	0	0	0	0	0	0	6	46
Exchange differences [gain or (-) loss], net	91	344	538	849	321	457	1,041	1,240
Gains or (-) losses on derecognition of non financial assets, net	0	0	0	0	0	-988	-988	-974
Other operating income	6,191	9,100	14,343	32,368	7,137	11,844	22,619	32,692
(Other operating expenses)	3,687	7,694	12,773	22,633	3,804	10,825	19,730	28,967
TOTAL OPERATING INCOME, NET	67,668	133,128	192,637	304,701	86,868	170,415	263,412	346,646
(Administrative expenses)	36,632	72,083	104,390	160,763	41,451	84,476	144,977	197,585
Of which: Wages, salaries and fees (including staff-related cost)	22,456	43,215	62,908	93,293	23,611	49,215	82,979	114,993
Of which: Other administrative expenses	14,176	28,867	41,482	67,469	17,840	35,261	61,998	82,592
(Depreciation)	763	1,613	2,562	3,915	796	1,612	2,996	4,688
(Provisions or (-) reversal of provisions)	-22	-44	-66	-89	-23	-45	-70	284
(Impairment or (-) reversal of impairment on financial assets not measured at fair value through profit of loss)	0	0	0	1,551	0	0	0	672
(Impairment or (-) reversal of impairment of investments in subsidaries, joint ventures and associates)	0	0	0	0	0	0	0	0
(Impairment or (-) reversal of impairment on non-financial assets)	130	133	139	455	61	118	241	241
Profit or (-) loss from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations	3	3	3	0	0	-30	-31	0
PROFIT OR (-) LOSS	30,169	59,346	85,615	138,106	44,582	84,224	115,237	143,177
(Appropriations)	-150	1,545	61	1,874	-861	399	293	3,327
(Tax expense or (-) income related to profit or loss from continuing operations)	5,484	10,913	16,214	25,561	7,395	14,687	19,224	24,144
PROFIT OR (-) LOSS AFTER TAX FROM CONTINUING OPERATIONS	24,835	46,888	69,341	110,671	38,048	69,139	95,720	115,707
Profit or (-) loss after tax from discontinued operations	-411	-671	-968	-1,292	-237	0	-103	-63
PROFIT OR (-) LOSS FOR THE YEAR	24,424	46,217	68,374	109,379	37,811	69,139	95,616	115,643

Appendix 5. Balance sheets of investment firms by Variables, Statistical year and Quarter (Statistics Finland)

	2014				2015			
	1st quarter	2nd quarter	3rd quarter	4th quarter	1st quarter	2nd quarter	3rd quarter	4th quarter
ASSETS								
Cash and cash balances at central banks	68,217	99,618	112,026	135,277	117,236	116,923	161,873	178,022
Financial assets held for trading	3,342	3,163	2,002	2,172	4,325	5,846	9,944	8,481
Financial assets designated at fair value through profit or loss	0	68	1,091	1,102	1,275	469	234	14,145
Available-for-sale financial assets	5,356	10,369	10,212	25,546	22,490	17,537	20,228	5,781
Loans and receivables	36,031	4,362	5,547	2,469	5,002	3,438	5,778	3,690
Held-to-maturity investments	14,005	11,013	10,014	12,110	3,258	3,312	2,811	2,147
Derivatives - Hedge accounting (assets)	0	0	0	0	0	0	9,374	18,474
Fair value changes of the hedge items in portfolio hedge of interest rate risk (assets)	0	0	0	360	0	0	0	0
Investments in subsidiaries, joint ventures and associates	15,937	16,066	16,069	13,656	12,126	12,945	13,257	13,296
Tangible assets	5,156	5,421	5,424	5,879	5,681	6,051	6,052	6,182
Intangible assets	10,719	14,270	13,556	13,467	13,568	10,099	10,597	11,505
Tax assets	2,634	1,369	1,610	1,289	1,208	1,511	2,272	3,425
Other assets	64,496	69,030	74,686	98,060	95,815	100,837	102,602	124,499
Non-current assets and disposal groups classified as held for sale	0	991	0	1,134	0	179	850	100
TOTAL ASSETS	225,893	235,741	252,236	312,520	281,984	279,148	345,872	389,748
LIABILITIES								
Financial liabilities held for trading	715	251	231	217	121	121	9,996	18,469
Financial liabilities designated at fair value through profit and loss	0	2,034	2,157	0	0	1,893	1,785	262
Financial liabilities measured at amortised cost	1,052	1,220	2,021	2,777	3,437	3,210	3,719	3,155
Derivatives - Hedge accounting (liabilities)	0	0	0	0	0	0	0	0
Fair value changes of the hedge items in portfolio hedge of interest rate risk (liabilities)	0	0	0	0	0	0	0	0
Provisions	2,033	1,696	1,632	2,439	1,888	1,927	1,885	1,454
Tax liabilities	7,377	4,856	5,476	5,686	7,879	6,609	6,932	3,171
Share capital repayable on demand	0	0	0	0	0	0	0	0
Other liabilities	77,336	69,188	64,014	94,890	103,502	75,550	80,290	108,306
Liabilities included in disposal groups classified as held for sale	2	12	19	0	0	0	0	0
TOTAL LIABILITIES	88,539	79,271	75,557	106,033	116,863	89,346	104,673	134,886
Capital	37,443	40,291	40,221	37,642	37,856	35,964	43,386	39,429
Share premium	7,830	6,484	6,484	6,617	7,433	3,758	2,942	6,603
Other equity	195	195	195	125	295	125	125	125
Other	4,604	3,276	5,404	3,785	3,285	3,351	5,779	5,050
Accumulated other comprehensive income	180	191	107	-452	-617	-599	-668	379
Retained earnings	51,740	74,983	96,715	125,930	86,053	114,445	138,882	144,314
Revaluation reserves	0	0	0	-6	-2	0	-44	-146
Other reserves	36,341	32,028	29,934	35,048	33,214	37,039	61,648	66,299
(-) Treasury shares	-978	-978	-1,181	-202	-2,395	-4,281	-8,766	-6,692
(-) Interim dividends	0	0	-1,199	-1,999	0	0	-2,085	-499
TOTAL EQUITY	137,354	156,469	176,679	206,488	165,122	189,801	241,199	254,861
TOTAL EQUITY AND TOTAL LIABILITIES	225,893	235,741	252,236	312,521	281,985	279,148	345,871	389,747

Appendix 6. Criteria for value investing of well-known investors

	Graham	Buffett	Klarman	Ruane	Neff	Tweedy, Browne	Weitz	Brandes
Company size	large	large		large	different size		different size	small
Financial condition	high liquidity (current ratio at least 2), low debt				high ROE		good free cash flow	
Earnings	positive earnings for the past 10 years			strong revenue growth	earnings growth 7-20%			
Dividend	uninterrupted for the past 20 years				agree but not insist on high yield			
P/E	15 or less				40-60% below the market			
P/A	x							
P/B	1.5 or less							
Qualitative		strong management, economic pricing power		strong management				do not consider externally
Diversification	yes	no	yes	no		yes		yes
Margin of safety	yes		large				yes	large

Appendix 7. Related studies

Year	Author(s)	Reasearch on	Published in
1992	Martikainen	On the Cross-sectional Variation of E/P-ratio. Implications to E/P Anomaly	Finnish Journal ofBusiness Economics, Vol. 41, No. 2
1994	Booth & al.	On the Functional Form of Earnings and Stock Prices: International Evidence and Implications for the E/P Anomaly	Journal of Business Finance and Accounting, Vol. 21, No. 3
1994	Kauppi & Martikainen	Trading Strategies Based on Stock Market Anomalies on the Helsinki Stock Exchange	Vaasan yliopiston julkaisuja, Tutkimuksia No. 179
1998	Kallunki & al.	Accounting income, income components and market-to-book equity ratios: Finnish evidence	The International Journal of Accounting, Vol. 22, No. 3
2000	Kallunki	Stock Market Trading Strategies Based on Earnings and Cash Flows in Finland: Alternative Risk-Adjusting Approach	Scandinavian Journal of Management, Vol. 15, No. 1
2009	Leivo, Pätäri & Kilpiä	Value Enhancement Using Composite Measures: The Finnish Evidence	International Research Journal of Finance and Economics, No. 33
2009	Leivo & Pätäri	The Impact of Holding Period Length on Value Portfolio Performance in the Finnish Stock Markets	Journal of Money, Investment and Banking, No. 8
2009	Pätäri & Leivo	Performance of the Value Strategies in the Finnish Stock Markets	Journal of Money, Investment and Banking, No. 8
2010	Pätäri & Leivo	Persistence in Relative Valuation Difference between Value and Glamour Stocks: The Finnish Experience	The Finnish Experience, Banking and Finance Letters, Vol. 2, No. 3
2010	Patari & al.	Enhancement of Value Portfolio Performance using Data Envelopment Analysis	European Journal of Operational Research, Vol. 220, No. 3
2011	Leivo & Pätäri	Enhancement of Value Portfolio Performance using Momentum and the Long-Short Strategy: the Finnish Evidence	Journal of Asset Management, Vol. 11, No. 6
2011	Tomi Olin	Value Investing in the Finnish Stock Market	Master Thesis - Department of Information and Service Economy, Aalto University School of Economics
2012	Leivo	Combining Value and Momentum Indicator in Varying Stock Market Conditions: the Finnish Evidence	Review of Accounting and Finance, Vol. 11, No. 4